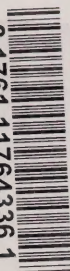


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Human Resources
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*COLLECTION OF
SUMMARIES OF
HUMAN RESOURCE
SECTOR STUDY REPORTS*

**SECTOR
STUDIES
DIVISION**


Human Resources Partnerships Directorate

Canada



**COLLECTION OF
SUMMARIES OF
HUMAN RESOURCE
SECTOR STUDY REPORTS**

**PREPARED BY
STRATEGIC HUMAN RESOURCES ANALYSIS DIVISION
(SECTOR STUDIES)
HUMAN RESOURCES PARTNERSHIPS DIRECTORATE
HUMAN RESOURCES DEVELOPMENT CANADA**



For further information,
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Fax: 613-957-1523**

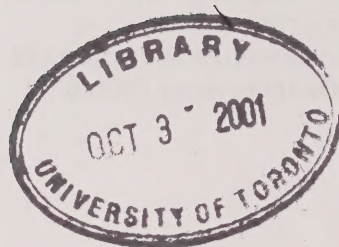


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COMPLETED SUMMARIES

A

Accommodation - 1995
Aircraft Maintenance (Sector Study) - 1991
Apparel - 1997
Audio Visual and Live Performing Arts - 1995
Automotive Parts - 1991
Aviation maintenance (Update) - 1996

B

Biotechnology - 1996
Broadcasting - 1993

C

Community Colleges (Sector Study) - 1993
Community College (Technology Study) - 1997
Consumer Electronic & Appliance
Service - 1993
Consulting Engineering - 1994
Cultural Labour Force Survey - 1996

D

Dairy Processing - 1996
Design - 1997

E

Environment - 1993

F/G

Foodservices - 1990
Furniture Manufacturing - 1995

H/I/J/K

Horticulture - 1993: National
Horticulture - 1993: Atlantic region
Horticulture - 1993: B.C. region
Horticulture - 1993: Ontario region
Horticulture - 1993: Prairie region
Horticulture - 1993: Quebec region

UPCOMING SUMMARIES

The following summaries will be released over the coming months:

HR Sector Study Reports

Child Care
Red Meat Processing
Food Retail and Wholesale

L

Literary Arts and Publishing - 1995
Logistics (LMI Study) - 1997

M/N

Marine Transportation - 1993
Mining - 1993
Motor Vehicle Passenger Transportation
(Bus) - 1997
Music and Sound Recording - 1995

O

Oil & Gas (Upstream) - 1992

P/Q

Plastics - 1996
Printing (Commercial) - 1992
Pulp and Paper - 1993

R

Retail Travel Services - 1997

S

Signs - 1994
Software (Sector Study) - 1992
Software (Update) - 1995

T/U


Telecommunications - 1996
Textiles - 1996
Truck Transport - 1990

V

Visual Arts and Crafts - 1995

W/X/Y/Z

Western Canadian Grain Storage and
Handling - 1995
Wood Products (B.C.) - 1992



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Summaries - Completed and Upcoming

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A

[Accommodation - 1995](#)

[Aircraft Maintenance - 1991](#)

[Aviation Maintenance \(Update\) - 1996](#)

[Apparel - 1997](#)

[Audio Visual and Live Performing Arts - 1994](#) (also listed under Culture)

[Automotive Parts - 1991](#)

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B

[Biotechnology - 1996](#)

[Broadcasting - 1993](#)

[Buses \(Motor Carrier Passenger Transportation\) - 1997](#)

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C

[Child Care - 1998](#) (study completed - report summary coming)

[Community Colleges \(Sector Study\) - 1993](#)

[Community Colleges \(Technology Study\) - 1997](#)

[Consulting Engineering - 1994](#)

[Consumer Electronics & Appliance Service - 1993](#)

[Culture - 1994](#)

Other cultural report summaries listed under:

[Audio Visual and Live Performing Arts - 1994](#)

[Literary Arts and Publishing - 1994](#)

[Music and Sound Recording - 1994](#)

[Visual Arts and Crafts - 1994](#)

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D

[Dairy Processing - 1996](#)

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1. THE HUMAN RESOURCE SECTOR STUDY PROCESS, REPORTS AND SUMMARIES

1.1 OVERVIEW OF SECTOR STUDIES AND SPI

Formerly known as the Sector Studies Division, the Strategic Human Resources Analysis Division (SHRA) of the Human Resources Partnerships Directorate of Human Resources Development Canada (HRDC), has been helping private industry take a lead role in addressing its specific human resource challenges since the mid-1980s. Working partnerships between management, labour, academic, government, and other industry stakeholder representatives are established with the intention of taking coordinated action on human resource issues critical to the sector. As a first step, an extensive analysis of the sector is undertaken, with the results published in a detailed human resources (HR) sector study report.

The sector study process is one part of the Sectoral Partnerships Initiatives (SPI) which includes a number of activities designed to bring together employers, workers, and other stakeholders in industry, to define and address, on a national basis, the common human resource challenges facing the sector(s). Although the activities are driven by the private sector, SPI serves as the catalyst, providing information, expertise, and start-up funding for the work. SPI aids the strengthening of the labour market infrastructure by encouraging and facilitating consensus concerning national issues and strategies.

Human Resources Development Canada has set these objectives for SPI:

- *to develop effective partnerships in the private sector;*
- *to improve the relevance of the training system;*
- *to foster a continuous learning culture in the private sector;*
- *to support the mobility of labour across Canada; and,*
- *to contribute to Canada's labour market information.*

An overview of the SPI activities, which include the formation of HR Sector Councils and the development of occupational and certification standards, can be found in the annual "Sectoral Activities Update Report". The spring 1996 version can be obtained by contacting the "Enquiries Centre" at HRDC (Fax: (819) 953-7260), and on the Internet: "<http://www.hrdc-drhc.gc.ca>".

As part of the SPI, HRDC funds the HR sector study process, while analysts from the SHRA Division facilitate the various activities required to ensure a quality product. This includes understanding and analyzing the issues in the sector, liaising with the sector's participants, and managing the contractor.

The Collection of Summaries of Human Resource Sector Study Reports, derived from the detailed HR reports, are a new labour market information product of the SHRA Division. The information included, and the format developed, evolved from a series of consultations with a variety of traditional clients and users.

1.2 ABOUT THE HR SECTOR STUDY PROCESS AND REPORTS

Each sector study is national in scope and examines how various factors, such as changes in technology and the domestic and global business environment, impact on the labour force of a particular industrial sector. Labour force issues examined include:

- future employment;
- occupational structure;
- skill levels;
- labour demand and supply; and,
- training needs.

Such forward-looking industrial and human resource analyses are a critical first step to enable all players in a sector to work together to develop a comprehensive, long-term, national human resource development strategy. Some of the major human resource issues covered in past sector studies include:

- an identification of the gaps between current skills and emerging skill requirements such as basic skills and education, communication, computer skills, problem-solving, and management skills;
- career progression and mobility;
- workforce characteristics and changes in workplace organization;
- training and professional development requirements;
- technological innovation and adoption;
- international comparisons; and,
- human resource management practices.

For each study, a sector-specific steering committee is created, consisting of key stakeholder representatives from business, labour, academia, associations, and both provincial and federal government departments, to direct the study process and its content. An independent contractor is selected by the committee to undertake the fact-finding and analytical research, develop recommendations, and prepare the final report. To accomplish this successfully, a variety of information-gathering techniques are employed:

- review of existing literature and data;
- interviews with industry experts;
- focus groups with employers, employees, students;
- in-depth case studies; and,
- surveys to collect qualitative and quantitative information.

There is a heavy emphasis placed on gathering qualitative information, in order to enrich the understanding of what the sector is facing. The results are analyzed and synthesized into a detailed final report. This report represents a consensus view of all the industry stakeholder groups involved in the process, and provides the basis for a human resource development strategy and action plan for the sector.

The follow-up to several of these studies has been the formation of joint business-labour organizations, or Sector Councils, which share a commitment to identify and act on the human resource needs that are most important to the constituents of their particular sector. Among other activities, Sector Councils develop comprehensive human resource plans, coordinate the development of national standards, and help forge links between educators, employers, and employees.

1.3 ABOUT THIS COLLECTION OF SUMMARIES OF HR SECTOR STUDY REPORTS

The Strategic Human Resources Analysis Division (previously Sector Studies) has summarized all of the human resource sector study reports published by their group from 1990-1996. This collection is entitled “Summaries of Human Resource Sector Study Reports”.

Why did we do this? The detailed HR sector study published reports range in length from 75 to 300 pages. The topics included, and the level of detail pertaining to each area of analysis, are dependent upon the issues and circumstances unique to that sector. The Summaries of HR Sector Study Reports organize this detail into a common format, by following a template with a uniform breakdown of headings and subject matter, which is presented in a tabular format.

These Summaries have been designed for quick reference and easy comparability. They were also designed specifically for users or clients who may not wish to review the detailed report, such as those with time constraints or specific interests. Overall, the Summaries are designed to:

- present the key information from the detailed report more succinctly;
- make it easier to locate, focus on, or compare, particular areas of interest; and,
- allow users to get a general feel for the sector and its HR concerns.

If, after reviewing a Summary, a user finds they require more detail, they can then choose to refer to the detailed report.

The headings included in each Summary are:

- | | |
|--|-------------------------------------|
| ✓ Background Information | ✓ HR Management Practices |
| ✓ Impetus for Study | ✓ Training and Development Patterns |
| ✓ Approach and Methodology | ✓ Key HR Issues |
| ✓ Change Drivers | ✓ Recommended Priorities for Action |
| ✓ Characteristics of the Industry | ✓ Table of Contents |
| ✓ Unionization/Professional Associations | ✓ List of Tables/Graphs |
| ✓ Employment Patterns | ✓ Members of the Steering Committee |

1.4 HR SECTOR STUDIES REVISITED

A natural extension of the sector study process recently began taking shape in 1995. Under the provisions of the Sectoral Partnerships Initiative, SHRA is also managing a number of projects which update or expand upon the earlier HR sector studies, in concert with the work of existing Sector Councils. The nature and scope of these projects are dictated by the initiatives the councils are involved with, and their unique sectoral data requirements. The quantitative and qualitative data gathered for these projects also helps HRDC contribute to improving the type and quality of national labour market information available to a variety of users.

2. TECHNICAL NOTES FOR SUMMARIES

2.1 GENERAL TECHNICAL NOTES

1. THE INFORMATION PRESENTED IN THE SUMMARIES IS STRICTLY A SUMMARY OF THE CONTENTS OF THE PUBLISHED REPORT. NO ATTEMPTS WERE MADE TO UPDATE THE DATA.
2. Data, information and terminology presented in every Summary were current at the time of the study. Any use made of the results of the study should make reference to the date of release of the publication.
 - ☞ The data should **never** be quoted as current, particularly for studies more than one year past their release date. In some cases, depending on the length of the research process and timing of data availability, quantitative data may have been outdated by the time the report was published.
 - ☞ The qualitative information, particularly general trends, in many cases, has a relatively longer shelf life and may still be relevant, but **must** be viewed with the timing of the release in mind.
 - ☞ The terminology is reproduced as published in the original sector study report. For example, “Employment and Immigration Canada” was not changed to HRDC. Any changes to names of associations, unions, councils, etc., subsequent to the release of a report were also not made.
3. This is public information, and can be copied and redistributed in part or in its entirety as required, by primary or secondary users, at no cost. The origin of the Summaries is attributed to the Strategic Human Resources Analysis Division (Sector Studies) of Human Resources Development Canada.
4. Each Summary is numbered separately and includes a header with the name of the sector and the date the report was released.

2.2 GUIDE TO THE TEMPLATE USED TO COMPILE INFORMATION FOR THE SUMMARIES OF HR SECTOR STUDY REPORTS

NOTE: This guide includes the outline of the type of information *generally* summarized into each sub-section. Relevant content may not be available from the original detailed report, for all topics, for all sectors.

Sector/Industry Name and the year the report was published/released

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ date report published, with full published name of report ▶ name of contractor(s) who undertook the research and wrote the report
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ specific issue(s) or concern(s)
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ short summary of methods used ▶ includes exact or approximate numbers, where possible - e.g., "1200 surveys"; "over 50 interviews"; "about 5 case studies"
CHANGE DRIVERS	<ul style="list-style-type: none"> ▶ economic or market pressures (globalization, mergers, etc.) ▶ regulatory (environment, economic, etc.) ▶ technological (types of technology could include: information, biotechnology, product, process, materials, etc.) ▶ social/demographic
CHARACTERISTICS OF THE INDUSTRY	<p>Includes where possible:</p> <ul style="list-style-type: none"> ▶ sector definition (SIC plus description); ▶ primary, secondary or service sector; ▶ total sales (date); ▶ market structure, links to suppliers, source of R&D, technological change; ▶ ownership/concentration; ▶ total establishments (date); ▶ geographic distribution of establishments; ▶ recent financial performance; ▶ major demand factors; ▶ key success factors.
UNIONIZATION/ PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ list of main unions or professional associations ▶ unionized versus non-unionized - percentage if available
EMPLOYMENT PATTERNS	<p>Includes where possible:</p> <ul style="list-style-type: none"> ▶ total employment; ▶ mode of employment (full time, part time, contract, shift, etc.); ▶ major occupations; ▶ main demographic characteristics (age, education, employment equity balance); ▶ turnover/basic career path/mobility, loyalty to occupation.

HR MANAGEMENT PRACTICES	<p>Could include topics such as:</p> <ul style="list-style-type: none"> ▸ employment legislation\ jurisdiction; ▸ recruitment practices; ▸ compensation structure; ▸ downsizing practices; ▸ actual HRP activity or capacity.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▸ sources of basic training or education (apprenticeship, college, employers, OJT) ▸ internal training, planning and infrastructure ▸ requirements for licensing, certification ▸ industry-education links ▸ common training activities
KEY HR ISSUES	<p>Organization Design</p> <ul style="list-style-type: none"> ▸ changing work designs or work practices, quality improvement ▸ changing occupational mix or specialization ▸ emerging skill requirements and skills shortages <p>Recruitment</p> <ul style="list-style-type: none"> ▸ need to improve recruitment approaches ▸ image of the industry ▸ adequacy of career development and counselling supports ▸ need to improve employment equity <p>Training and Development</p> <ul style="list-style-type: none"> ▸ literacy and numeracy ▸ need for technical retraining and upgrading ▸ need for soft skills development ▸ need for management development ▸ adequacy of education and training infrastructures for entry level ▸ adequacy of continuous learning infrastructure and supports <p>Rewards and Retention</p> <ul style="list-style-type: none"> ▸ occupational health and safety ▸ working conditions (shifts, outdoors, remote, noise, etc.) <p>Other</p> <ul style="list-style-type: none"> ▸ need for downsizing or outplacement ▸ need for ongoing HR data ▸ adequacy of government HR supports and infrastructure
RECOMMENDED PRIORITIES FOR ACTION	<p>As found in the detailed report:</p> <ul style="list-style-type: none"> ▸ may be listed by level: establishment; sectoral; occupational level; and ▸ may include list of recommendations as found in report, or a sample of the main areas of recommendations when the list is very long .
TABLE OF CONTENTS	<ul style="list-style-type: none"> ▸ listed as found in detailed report
LIST OF TABLES/ GRAPHICS	<ul style="list-style-type: none"> ▸ listing of all exhibits, including tables and graphs, as found in detailed report
MEMBERS OF THE STEERING COMMITTEE	<ul style="list-style-type: none"> ▸ listed by company, union, association, academic institution, government department ▸ names of individuals not listed

Section 3

COLLECTION OF

SUMMARIES OF

HUMAN RESOURCE

SECTOR STUDY REPORTS

In Alphabetical Order

A

Accommodation - 1995
 Aircraft Maintenance
 (Sector Study) – 1991
 Apparel – 1997
 Aviation maintenance (Update) - 1996
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 (Bus) - 1997
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T/U

Telecommunications - 1996
 Textiles - 1996
 Truck Transport - 1990

V

Visual Arts and Crafts - 1995

W/X/Y/Z

Western Canadian Grain Storage and
 Handling - 1995
 Wood Products (B.C.) - 1992

SUMMARY OF THE 1995 HUMAN RESOURCES STUDY OF THE ACCOMMODATION INDUSTRY

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 145 page detailed report, entitled "<i>Human Resources Study of the Canadian Accommodation Industry</i>", was published in December 1995. ▶ The report was prepared by KPMG, in association with Abt Associates of Canada and Mana Research Ltd. ▶ The Canadian Tourism Human Resource Council was formed in 1994, and includes accommodation as one of its key subsectors.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Concerns about the future of the industry. ▶ Impact of new technology. ▶ Global competition.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ All of the analysis undertaken for the study was completed in the fall/winter of 1994/1995. ▶ Interviews and focus groups were used extensively to collect comments and opinions on the current state of accommodation human resource practices. ▶ More than 65 interviews were held with key stakeholders (e.g. hotel owner/operator, labour, educators, industry associations, employees, students, technology suppliers/users, career counsellors). ▶ In addition, 11 focus groups with more than 75 students and employees at various hotels and educational institutions were held across the country. ▶ Numerous telephone interviews were also conducted. ▶ Case studies of six Canadian accommodation facilities in various locations across the country were conducted to permit first-hand investigation of the human resource challenges facing the industry and to profile specific human resource practices. ▶ A case study of the Australian accommodation industry was also conducted to identify human resource development, education, training and related trends for the purposes of comparison to the Canadian situation. ▶ Finally, a literature search that focused on various trends, statistics and background data and a labour market analysis based on Statistics Canada's 1991 Census data were conducted.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ The recession of the early 1990s caused a decline in both leisure and business travel and resulted in fierce rate competition among hotels. ▶ Increases in property taxes in major Canadian cities exacerbated the problem. ▶ The industry faced a large number of layoffs, deterioration of facilities and changes in ownership. ▶ In 1994, the industry began to recover with rising occupancy levels and higher average room rates. ▶ The NAFTA and the Open Skies agreement should increase the number of international visitors.

NOTE: Data and information presented above were current at the time of the study.

CHANGE DRIVERS (continued)	<ul style="list-style-type: none"> ▶ The Conference Board of Canada's long term forecast shows that the accommodation and food industry will experience an annual growth in GDP of approximately 3% between 1995 and 2015. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ Not mentioned. <p>Technological</p> <ul style="list-style-type: none"> ▶ Reliance on technological advances for the efficient operation of an accommodation facility has increased greatly over the very recent past. ▶ Technology is used to enhance the guest experience (e.g. voice mail, in-room fax capability) or improve internal operating efficiencies (e.g. increasing use of electronic property maintenance system, the consolidation of production through cook/chill and cook/freeze processing in the food services, wider electronic linkages to reservation systems for both travel agents and guests, centralized reservation service providers). <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ Change in consumer's preferences, e.g. travelling public is becoming more sophisticated, more demanding and demonstrating greater concern for their health and the environment. ▶ Domestic pleasure travel (shorter and closer to home) will grow faster than domestic business travel. ▶ Travellers over 55 years old is the fastest growing travel segment in North America.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ The industry is far from homogenous due to variances in operating structures and characteristics (location, seasonality, size, services provided, labour, ownership, management ownership structure and financial strength and level of computerization). ▶ According to the most recent Statistics Canada "Traveler Accommodation Statistics" there was a total of 15,571 accommodation facilities in Canada in 1991. ▶ The industry can be divided into four sub-groups: Hotels, motels, and tourist courts (SIC 911), Lodging houses and residential clubs (SIC 912), Camping grounds and trailer parks (SIC 913) and Recreations and vacation camps (SIC 914). ▶ Hotels, motels and tourist courts (SIC 911) includes more than three-quarters of employment and economic activity in the broader accommodation industry. ▶ The majority of hotels/motels operate as independents (77% of hotels and motor hotels, and 64% of motels). ▶ Although they only have a small share of facilities, chains and management companies have a significant impact on the industry as they usually operate larger properties and have high public awareness. They play a major role in the definition of the profile of the industry with travellers, labour force and the business community. ▶ The recent trend towards consolidation and conversion of hotel brands is expected to continue.

NOTE: Data and information presented above were current at the time of the study.

CHARACTERISTICS OF THE INDUSTRY (continued)	<ul style="list-style-type: none"> ▶ According to the NOC (National Occupational Classification) skill profile of jobs in the industry, 66.2% of the positions are suitable for people below the high school graduation level. ▶ A very large number of associations claim to represent both the broader tourism industry and the accommodation industry. Associations worth noticing are: The Hotel Association of Canada (HAC) and The Canadian Tourism Human Resource Council (CTHRC). ▶ All three levels of government are extensively involved in the development and control of the accommodation industry, and have an impact on the industry through financial, facilitative, regulatory and legal measures.
UNIONIZATION / PROFESSIONAL ASSOCIATIONS	<p><i>(Please note: some of this detail was not provided in the full report)</i></p> <ul style="list-style-type: none"> ▶ The industry had a unionization rate of 20% in 1991. The unionization rates by subsector are: Hotels, motels and tourist courts (SIC 911) 22.6%; Lodging, houses and residential clubs (SIC 912) 24.6%; Camping grounds and trailer parks (SIC 913) n.a.; and Recreations and vacation camps (SIC 914) 2.4%. ▶ The four largest unions, classified by Canadian members in the accommodation industry, were: Hotel and Restaurant Employee's International Union with 17,748 members in 1991, nearly half of all unionized employees in the industry); Fédération du Commerce Inc. with 5,160 members in 1991 (provincial); Canadian Brotherhood of Railway Transport Workers, 4,943 members in 1991 (national); and United Steelworkers of America, 2,537 members in 1991 (North American). ▶ The industry is seen as a growth area for union membership.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ In 1991, the industry employed approximately 180,000 workers (213,000 workers at peak season); the Hotels and motels subsector accounted for 82.7% of these workers. ▶ Relative to the general working population, the accommodation industry has a higher proportion of: younger workers; part-time and seasonal workers; women; people with lower levels of formal education; turnover, and; people for whom English or French is a second language. ▶ The majority of workers in the industry are women (58.7%). They occupied more (in proportion) of the part-time jobs and more of the jobs requiring less than high school graduation than men. ▶ The great majority of employees in the accommodation industry work in a handful of occupations. In fact, half (50.6%) of all employees work in five occupations: light duty cleaners (16.6%), food and beverage servers (11.9%), accommodation managers (10.1%), hotel front desk clerks (6.6%), and cooks (5.4%). ▶ Employees view factors other than wages as key motivating criteria for working in the industry. The leading factors are working with people, and the variety of tasks. ▶ The organizational hierarchy in the industry is changing. Middle management positions are being reduced and areas of responsibilities broadened.

NOTE: Data and information presented above were current at the time of the study.

EMPLOYMENT PATTERNS (continued)	<ul style="list-style-type: none"> ▶ The accommodation industry is expected to experience modest annual growth in net employment with an annual compound growth of approximately 1.3% from 1993 to 2000, and 1.1% from 1993 to 2005, according to the COPS (Canadian Occupational Projection System).
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Modest, if any, growth in training and human resource development budgets over the past several years. ▶ Human resource issues have not been given a very high priority. ▶ A general lack of awareness of the cost of training/hiring/recruiting associated with turnover. Turnover is considered as unavoidable and not always a bad thing by many in the industry.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ An employee's attitude and previous work experience tend to carry more weight in a hiring decision than formal and/or informal education and training. On the other hand, education and training are viewed as highly advantageous for advancement once hired. ▶ On-the-job training is an ongoing reality in the accommodation industry. ▶ The high proportion of part-time and seasonal workers requires cost and time to hire, retrain and re-orient new staff on-the-job while attempting to maintain "seamless" customer service. ▶ Few training and education opportunities exist for the owner-managed facilities.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ Labour organizations will come under some pressure to consider new approaches to human resource management and development. ▶ Sensitivity to cultural differences will become more of an issue in the future. ▶ Continued coordination of human resource strategies and initiatives is required. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ The perception of the industry by career influencers (e.g., family, friends, counsellors) requires significant improvement before accommodation sector jobs are viewed as an attractive career choice. ▶ The desired accommodation employee of the future, at all levels and job types, will need to have a more enhanced skill base, like: computer literacy, problem solving, task orientation, advanced communication skills, positive attitude, assertiveness, multi-lingual capability and sales orientation. ▶ The cyclical nature of the industry is likely to create both short- and long-term staff shortages. ▶ A shrinking labour pool (e.g. young workers, immigrants) suggests that the industry will need to identify new sources of employees over the medium term. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ More "real world" work experience is required in tandem with education. For example, in order to provide greater work term opportunities for students, the traditional school year has to be adjusted to meet the industry's peak season. ▶ Many employers are either unaware of the large and diverse number of college and university programs or are confused about how to evaluate the quality of such programs and program graduates.

NOTE: Data and information presented above were current at the time of the study.

KEY HR ISSUES (continued)	<ul style="list-style-type: none"> ▶ The quantity and type of education and training is not necessarily tied to the needs of the industry. ▶ One of the key objectives of The Canadian Tourism Human Resource Council is the development of national occupational standards and associated certifications for all occupations in the industry. ▶ Suitability of applicants should be considered by universities and colleges who are facing excess demand for accommodation programs. ▶ On-the-job training will likely remain a leading training delivery method in the accommodation industry. It is perceived as being less expensive, easier to control, more flexible and permits the implementation of custom in-house programs. ▶ Some priority should be given to the development of alternate methods of providing training (e.g. interactive CD modules) for owner/operator who needs to be present at the facility on a day-to-day basis. ▶ The interest in enrollment at the community college and university level is relatively high. However shortages in key industry positions are a perennial problem. These factors indicate supply-demand mismatches. ▶ The occupations in which employers identified shortages of qualified applicants included chefs, experienced line cooks and sales managers. ▶ The continued growth in international travel has implications with regard to the need for stronger multi-lingual skills and cultural sensitivities in the industry. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ The industry needs to establish better human resource practices to reduce turnover and enhance the profile of the industry as a viable long-term career. <p>Other</p> <ul style="list-style-type: none"> ▶ Too much emphasis is placed on new entrants to the industry as opposed to existing employees.
RECOMMENDED PRIORITIES FOR ACTION	<ul style="list-style-type: none"> ▶ Illustrate the financial impacts of good human resource practices. ▶ Cultivate more effective linkages among and between industry stakeholders. ▶ Launch a national career opportunities awareness program; stage career fairs. ▶ Identify and/or create, catalogue, communicate and distribute appropriate training programs and tools, which take account of the operating environment at the business level. ▶ The need of small and medium-sized owner/operated business should be given specific attention in the development of training materials. ▶ Expand the availability of work experience for students enrolled in accommodation programs. ▶ Endorse the process of implementing national standards and certification. ▶ Support enrollment only in those educational and training programs that meet national occupational standards.

NOTE: Data and information presented above were current at the time of the study.

RECOMMENDED PRIORITIES FOR ACTION (continued)	<ul style="list-style-type: none"> ▶ As a longer term objective, endorse program offerings of teaching institutions that meet pre-determined criteria. ▶ Consideration must be given to the number of program graduates in relation to available positions. ▶ Recognize that students working in part-time or seasonal positions are potential long-term employees. ▶ Investigate methods to assist educational institutions to become equipped with state-of-the-art technology.
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NOTE: Data and information presented above were current at the time of the study.

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NOTE: Data and information presented above were current at the time of the study.

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<p>MEMBERS OF THE STEERING COMMITTEE</p>	<p>Employers</p> <ul style="list-style-type: none"> Canadian Pacific Hotels & Resorts Delta Hotels & Resorts Holiday Inns of Canada Levinson-Viner Limited <p>Unions/Professional Associations</p> <ul style="list-style-type: none"> CAW Fédération du Commerce Inc. Hotel, Restaurant Culinary Employees & Bartenders Union TCA Québec United Food and Commercial Workers International Union <p>Industry Associations and Councils</p> <ul style="list-style-type: none"> Alberta Hotel Association Asia Pacific Foundation of Canada L'Association des Hôteliers de la Province de Québec Canadian Tourism Human Resource Council Hotel Association of Canada <p>Educators</p> <ul style="list-style-type: none"> Canadian Institute for Native Training and Development Université du Québec à Montréal University College of the Cariboo, Kamloops, B.C. University of Guelph <p>Government</p> <ul style="list-style-type: none"> Industry Canada Ministry of Skills, Training and Labour, B.C. Tourism Canada Human Resources Development Canada

NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1991 HUMAN RESOURCES STUDY OF THE **AIRCRAFT MAINTENANCE INDUSTRY**

Note: A demographic update of this study was released in March 1996.

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 180 page detailed report, entitled "<i>Human Resources in the Canadian Aircraft Maintenance Industry</i>", was published in 1991. ▶ The study was prepared by Price Waterhouse.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Perceived shortage of structural repair technicians needed for enhanced structural maintenance of aging fleet.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ Two questionnaires were developed to gather information on organizations involved in aircraft maintenance and colleges offering aircraft maintenance programs, respectively. In total, 50 companies and 13 colleges filled out the questionnaires. ▶ Interviews were conducted with relevant associations, government departments, unions, companies and colleges. ▶ Focus group sessions were conducted with workers, especially aircraft maintenance engineers (AMEs), and worksites were visited to observe how they do their work. ▶ A review of existing literature and data sources was conducted.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ Globalization of airlines. ▶ Mergers and acquisitions in Canada and other countries. ▶ Leveling off of demand in air passenger traffic internationally. ▶ Aging fleet; fleet and route rationalization. ▶ Low financial performance of airlines. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ Economic deregulation led to rapid expansion. ▶ Continuing and increasingly stringent airworthiness and air safety regulations. <p>Technological</p> <ul style="list-style-type: none"> ▶ New aviation technologies: electronics, materials, information technology and evolutionary change. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ Dwindling supply of new workforce entrants from traditional sources: DND and foreign workers. ▶ Aging population increases leisure travel demand.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ Service sector. ▶ Includes: Repair and overhaul (R&O); retrofit, remanufacture of aircraft and aircraft components; as well as preventive maintenance of aircraft (SIC not applicable). ▶ Estimated total sales/expenditures of \$2.3 billion; \$1 billion is R&O; \$.7 billion is airlines.

NOTE: Data and information presented above were current at the time of the study.

CHARACTERISTICS OF THE INDUSTRY (continued)	<ul style="list-style-type: none"> ▶ Larger maintenance operations are divisions of air transport or aviation manufacturers; also includes smaller "stand alone" operations ▶ Airline maintenance predominantly services internal customers; good export opportunities in contract maintenance. ▶ Airline segment is Canadian-owned; R&O and component segment has more foreign ownership ▶ Estimated total 1,300 companies. ▶ Wide geographic distribution of employment, but concentrated in Quebec, Ontario, Alberta and B.C.. ▶ Maintenance requirements are heavily regulated domestically; international harmonization of some regulations exists. ▶ Tight link between aerospace manufacturers (includes heavy research and development (R&D)) and air transport sector through maintenance review boards. ▶ Maintenance demand depends on regulation, aircraft use, fleet size, age and composition. ▶ Key success factor involves scheduling or phasing of maintenance to allow maximum capacity utilization of equipment and personnel.
UNIONIZATION/ PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ About 50% unionized: International Association of Machinists and Aerospace Workers (IAMAW) and Canadian Auto Workers (CAW). ▶ 5 regional Aircraft Maintenance Engineers (AMEs) professional associations with about 2,000 members in total.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ Estimated total employment 19,300; largest portion in repair and overhaul (R&O). ▶ Predominantly full-time employment. ▶ Self-employment disappearing due to regulations on maintenance operations. ▶ Considerable shift work, especially in airlines (nights). ▶ Major occupations - skilled trades and technicians: generalists in smaller approved maintenance operations (AMOs), more specialists in larger AMOs; AME; aviation technicians; avionics technicians; sheet metal/structures technician; propulsion shop technicians; machinists; hydraulics technicians; welders; and, painters. ▶ Mainly male, white. ▶ Average age approximates general labour force; however AMEs are on average older. ▶ Average 13% attrition; relatively high turnover in smaller firms compared to large; turnover high among more junior workers. ▶ Apart from AMEs, career paths unclear, convoluted. ▶ Little inter-occupational mobility, but high industry attachment; net movement out of the sector in economic downturns.

NOTE: Data and information presented above were current at the time of the study.

HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Federal jurisdiction employer. ▶ Hourly compensation; top wage roughly double that of entrants; entrants start at apprentice wage level. ▶ Employment equity recognized but does not have high profile. ▶ Relatively little actual HRP activity beyond scheduling; good production planning; data and capacity for better HRP.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ Colleges provide basic training geared to AME; practical training on-the-job (called "apprenticeship") precedes licensing; skilled trades almost always based on on-the-job training (OJT); one formal aircraft maintenance apprentice program (Manitoba). ▶ Other certificates include non-destructive testing (NDT), Red Seal (but not deemed sufficient). ▶ Continuing education of licensed AME tied to endorsements for new aircraft types.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ Some multi-skilling; blurring of occupational boundaries; more emphasis on teamwork. ▶ In-line inspection, quality assurance. ▶ Transferable skills in shop occupations, particularly avionics. ▶ Entrants require practical skills plus knowledge of aircraft structures and regulatory systems; increasing demand for communication and problem-solving skills; high levels of literacy and numeracy. ▶ Need for recurrent training to keep pace with technological and regulatory change. ▶ Major employers, particularly airlines, relatively well-positioned to upgrade for new technologies; small employers find it difficult. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ Acknowledged shortage of structural repair technicians. ▶ Poor image of the skilled occupations for potential entrants; need to raise entry standards for training programs, yet attract career changers. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ Lack of formal training programs for non-licensed skilled trades. ▶ College programs geared to AME development are not necessarily suited to development for other skilled trades. ▶ Requirement to upgrade college programs, instructors. ▶ Need for practical learning but OJT not well structured; no guarantee learners will gain full set of skills; apprenticeships and formal education for related occupations (e.g. welding, machinist) not adequate for aviation. ▶ Strong need for occupational standards. ▶ Little support for continuous learning for skilled trades. ▶ Concern regarding cost of training. ▶ Need for co-ordination, co-operation in training planning and delivery.

NOTE: Data and information presented above were current at the time of the study.

KEY HR ISSUES (continued)	Reward/Retention <ul style="list-style-type: none"> ▶ Worker concern about mobility and transferability. ▶ Competes with other sectors for technical competence; high turnover among entry level particularly in smaller AMOs. ▶ Compensation not competitive for skilled trades; contributes to high turnover. ▶ Enclosed spaces, work with hazardous materials; but occupational health and safety (OSH) not major issue. ▶ Shift work, predominantly nights, reduces attractiveness of jobs. ▶ Minimal progress on employment equity to date. ▶ Statistics Canada data do not reflect the boundaries of the sector; need for improved and ongoing HR data/forecasting. ▶ Government HR supports/infrastructure not a major issue. Other <ul style="list-style-type: none"> ▶ Not mentioned.
RECOMMENDED PRIORITIES FOR ACTION	<ul style="list-style-type: none"> ▶ Develop occupational standards for skilled trades to encourage colleges to provide programming for full range of occupations. ▶ Maintain and enhance the integration of practical and theoretical learning. ▶ Upgrade and broaden the skills of the existing workforce, enhancing analytical, problem-solving, communication and interpersonal skills. ▶ Collaborate to raise the profile of the skilled occupations among potential entrants, particularly career changers from employment equity groups. ▶ Collaborate in on-going HR planning.
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NOTE: Data and information presented above were current at the time of the study.

<p>MEMBERS OF THE STEERING COMMITTEE</p>	<p>Employers Air Atlantic Air Canada Air Ontario, Inc. Canadian Airlines International Limited</p> <p>Unions/Professional Associations Atlantic AME Association Ontario AME Association Pacific AME Association Western AME Association International Association of Machinists and Aerospace Workers</p> <p>Industry Associations and Councils Aircraft Electronics Association Air Transport Association of Canada Canadian Business Aircraft Association Quebec Association of Aircraft Transporters</p> <p>Educators Centennial College of Applied Arts and Technology Central Newfoundland Community College Collège Édouard-Montpetit Southern Alberta Institute of Technology</p> <p>Government Department of Education, Newfoundland Department of National Defense Employment and Immigration Canada Ministère de la Main-d'oeuvre, de la Sécurité du revenu Ministry of Skills Development, Ontario Ministry of Advanced Education and Job Training, British Columbia Program Development and Standards, Alberta Transport Canada</p>
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NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1997 HUMAN RESOURCES NEEDS ANALYSIS OF THE CANADIAN **APPAREL INDUSTRY**

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▸ The study was published in November 1997 and conducted by Price Waterhouse under the direction of a steering committee composed of garment manufacturer representatives, designers, union and educational representatives, industry associations and government representatives.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▸ Changes in the garment industry affecting sales and marketing strategies, new technology implementation, and new manufacturing techniques have had a major impact on the work force. The introduction of new human resource management strategies is needed to keep stride with changes in the industry.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▸ A number of research techniques were applied. They include documentary and statistical analysis, interviews with key industry leaders, on-site visits with garment producers, a survey of human resource managers, and working sessions with the steering committee.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▸ International quality standards such as ISO 9000 are increasingly becoming the industry norm, particularly in Europe. Very strict quality standards are also being observed in North America. ▸ The industry must be poised to supply the merchandise consumers' want quickly without overstocking. ▸ There are a limited number of textile plants to supply the garment industry. Some Canadian garment producers are forced to get supplies regularly from foreign sources. ▸ Manufacturers must deal with compliance policies in the retail field. ▸ Dwindling distribution channels and consolidation in the retail sector are a challenge for the industry. ▸ Another difficulty for manufacturers is the shortage of skilled workers in certain areas. <p>Regulatory</p> <ul style="list-style-type: none"> ▸ New trade agreements such as NAFTA and free trade have led to the elimination of tariff and non-tariff barriers. This constitutes a major hurdle for the industry given the substantially lower garment production costs in some countries with emerging economies. <p>Technological</p> <ul style="list-style-type: none"> ▸ Technological advances are evident at various levels of production. They include computer-assisted design (CAD), computerized logistics for distribution and highly automated cutting and stitching equipment. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▸ Customers demand new products for new or existing needs, or to keep up with the fastest fashion trends.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▸ It is made up of sectors within the large Group 24 (Garment Industry) of the Standard Industrial Classification. ▸ Canadian garment industry shipments stood at \$46.2 billion in 1995. ▸ Most garment producers are small or medium enterprises. ▸ 66% of garment producers are located in Quebec, and 21% in Ontario.

NOTE : Data and information presented above were current at the time of the study.

CHARACTERISTICS OF THE INDUSTRY (continued)	<p>The Prairie and Atlantic Provinces account for a total of 8%, while British Columbia has about 5%.</p> <ul style="list-style-type: none"> ▶ There are over 2,000 garment producers in Canada. This figure includes sub-contractors. ▶ In 1994, the garment industry accounted for 41% of the gross domestic product. Revenues exceeded \$2.2 billion.
UNIONIZATION / PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ Union of Needletrades, Industrial and Textile Employees. ▶ Fédération des syndicats du textile et du vêtement (C.S.D.). ▶ Syndicat du vêtement, textile et autres industries (SVTI-Unité).
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ The 1991 Census shows 100,000 workers employed by the garment industry in Canada. ▶ Most workers have a full-time job with a garment manufacturer or a sub-contractor. ▶ Almost 55% of workers are in the production sector; 15% are in trades and 11% in finance and administration. ▶ The garment industry workforce is dominated by women. They hold 94% of sewing machine operator positions, 89% of sewer and cutter positions, 75% of other production jobs, and 57% of finishing jobs. They account for 30% of production management positions. ▶ Age distribution for garment workers echoes that of the manufacturing sector as a whole. The vast majority of workers are between 25 and 44. ▶ The proportion of workers with degrees is lower than the average for manufacturing industry workers as a whole. ▶ The garment industry has always been dependent on immigrant workers.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Given the cyclical (seasonal) nature of production, garment manufacturers recruit on a continuous basis. ▶ Producers rely heavily on networking and referrals from existing workers for hiring production workers. Managers occasionally advertise in local magazines and newspapers during major shortages. They sometimes also use the services of Human Resource Canada Centres. ▶ Hourly wages in the garment industry increased by 31% between 1984 and 1994. There is a substantial discrepancy between wages of men and women. ▶ Since 1989, overtime has dwindled markedly in all sectors of the garment industry.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ There are about 60 garments industry-related teaching programs in Canada. Most programs emphasize design and marketing. ▶ There are many possible forms of training for the garment industry. They include training and teaching offered by colleges and institutes, practical job-entry training and workplace training. ▶ Many community colleges have consultative committees with members from the garment industry. ▶ Workplace training is generally on-the-job, and usually given by the supervisor or a colleague coaching the new employee. ▶ Equipment suppliers also provide training, particularly for new equipment or technology. ▶ For many garment manufacturers, seminars, language training and basic skills upgrading are important components of workplace training. ▶ In Quebec, Bill 90 will probably have a positive impact on training budgets.

NOTE: Data and information presented above were current at the time of the study.

TRAINING AND DEVELOPMENT PATTERNS (continued)	<p>This law requires manufacturers to invest a minimum of 1% of their total payroll in employee training.</p> <ul style="list-style-type: none"> Producers in some areas have set up facilities for training production workers.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> Many garment producers use sub-contracting and home workers to increase flexibility and reduce costs. A complex industry in a rapidly-changing environment requires strategic business planning. <p>Recruitment</p> <ul style="list-style-type: none"> Developing and maintaining good networks in the community is essential to ensuring a supply of workers. One of the biggest challenges for garment producers is identifying jobs for which knowledge of the industry, though useful, is less important than a good knowledge of the tasks. Reducing the number of candidates to be evaluated without affecting recruitment standards would save time and money. Developing means to exclude unqualified candidates before the evaluation stage would no doubt be helpful. The constant fluctuations in numbers of jobs available is a recruiting challenge. When work volume increases, most garment producers attempt to re-hire previously laid-off workers. Many laid-off workers would no doubt like to be re-hired by their employer, but they cannot necessarily afford to wait for that opportunity. Producers have a critical need to reduce hiring and training costs for new employees. Garment industry leaders are sure that the industry's image affects their ability to attract new workers. Many people think that the industry employs only sewing machine operators; they do not realize that it offers a broad variety of jobs. <p>Training and Development</p> <ul style="list-style-type: none"> All producers involved in this study agreed on the importance of training, but said that a variety of factors prevented them from offering adequate programs. Insufficient funds and low staff skill levels are the main impediments to training. The need for new export markets and new products means a need for marketing, logistical and exporting skills. New production technology requires a more educated workforce. This new technology also leads to new work structures requiring better communication skills. The current labour force needs development and training to facilitate teamwork, skill development and multi-tasking.
RECOMMENDED PRIORITIES FOR ACTION	<ul style="list-style-type: none"> Set up a Human Resource Sector Council for the garment industry. Foster partnerships between educators and producers. Develop partnerships among producers. Develop formal mentoring and short-term training programs.

NOTE : Data and information presented above were current at the time of the study.

RECOMMENDED PRIORITIES FOR ACTION (continued)	<ul style="list-style-type: none"> ▶ Establish centres of excellence. ▶ Design tools to support producers' human resource activities. ▶ Create a human resource "consultant centre". ▶ Work with Statistics Canada and Industry Canada to redefine SIC-24. ▶ Develop an advertising campaign and promotional devices targeted at "specific markets" (ex: governments, financial institutions, secondary schools and postsecondary educational institutions). ▶ Foster partnerships between educators and manufacturers. ▶ Encourage partnerships between the various manufacturers.
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NOTE: Data and information presented above were current at the time of the study.

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NOTE : Data and information presented above were current at the time of the study.

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MEMBERS OF THE STEERING COMMITTEE	<p>Employers</p> <p>Katescorp Inc.</p> <p>Barmish Inc.</p> <p>Rubenstein Bros. Co. Inc.</p> <p>YKK Canada Inc.</p> <p>Kids Only Clothing Club Inc.</p> <p>Levi Strauss & Co. (Canada) Inc.</p> <p>Confections Drolet Inc.</p> <p>Streetsport MFG</p> <p>Canadelle Inc.</p> <p>Lafleche Bros.</p> <p>JML Shirt Ltd</p> <p>Claudell Lingerie Inc.</p> <p>Richlu Sportswear Ltd</p> <p>Coppely Apparel Group</p> <p>Cambridge Clothes</p> <p>Nygard International</p> <p>Peerless Clothing Inc.</p> <p>Mode Fulgurant Inc.</p> <p>Groupe RGR</p> <p>John Forsyth Co.</p> <p>Unions/Professional Associations</p> <p>Union of Needletrades, Industrial and Textile Employee (Unite-SVTI)</p> <p>Fédération des syndicats du textiles et du vêtement (C.S.D.) inc.</p> <p>Syndicat du Vêtement, textile et autres industries (Unite-SVTI)</p> <p>Industry Associations and Councils</p> <p>Apparel & Textile Association of Saskatchewan inc.</p> <p>Retail Council of Canada</p> <p>Manitoba Fashion Institute Inc.</p> <p>Toronto Fashion Incubator</p> <p>Canadian Apparel Federation Design Division</p>

NOTE : Data and information presented above were current at the time of the study.

MEMBERS OF THE STEERING COMMITTEE (continued)	<p>Apparel BC Canadian Apparel Federation Manitoba Fashion Institute Training Centre</p> <p>Educators École supérieure de mode de Montréal Kwantlen University College The George Brown College of Applied Arts and Technology</p> <p>Government Ontario Training Adjustment Board (OTAB) Manitoba Education and Training Société – Québécoise de développement de la main-d'oeuvre Industry Canada Textiles, Apparel and Footwear Directorate Human Resources Partnerships Directorate, Human Resources Development Canada</p>
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NOTE : Data and information presented above were current at the time of the study.

SUMMARY OF THE 1995 HUMAN RESOURCES STUDY OF THE AUDIO-VISUAL AND LIVE PERFORMING ARTS INDUSTRY

Note: A survey of the cultural sector labour force was released in 1996.

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 81 page detailed report, entitled "<i>Staging The Future: Human Resource Issues in the Audio-Visual and Live Performing Arts Industry</i>", was published in January 1995. ▶ The study was prepared by Ekos Research Associates Inc.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ This study aims at improving our understanding of the current cultural climate and of the functioning of the labour market in the audio-visual and live performing arts sector, at examining new trends and their impact on human resources, and at identifying present and future training and development needs.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ The following eight interconnected study components were dealt with simultaneously: a literature review; international comparisons; interviews with specialists; interviews with representatives; focus groups with members of the work force; secondary data analysis; case studies; and, a Delphi committee of specialists. ▶ Time was taken to collect the opinions of hundreds of members of the subsector. ▶ The focus of the interviews consisted in consulting not only with some of the most senior individuals in these fields, but also with "front-line" cultural workers. ▶ Examination of both Canadian and foreign documentary sources, with emphasis on examining documents relating specifically to the work force and training. ▶ Research and analysis of information from the United States, Australia, and the countries of the European Community (especially France and Britain). Research was primarily focused on typical projects relating to policies and programs adopted by governments, educational institutions, unions and other foreign institutions to resolve issues of workforce upgrading. ▶ The study group consulted 22 specialists to determine what major trends will affect the Canadian audio-visual and live performance sector over the next two to seven years. ▶ Interviews with 76 representatives of the Canadian audio-visual and live performance subsector on present and future issues in human resources and training in four occupational categories. ▶ Ten focus groups were held with workers. Groups of six to fourteen participants took part in the discussions, which were intended to obtain and analyze the opinions and the professional experience of "front-line" workers in the audio-visual and live performing arts sector.

NOTE: Data and information presented above were current at the time of the study.

APPROACH AND METHODOLOGY (continued)	<ul style="list-style-type: none"> ▶ 15 case studies of employers, members of the profession, and educational institutions were done. ▶ A Delphi committee of specialists was formed. The viewpoints of the committee members were gathered during two rounds of consultation. In all, 26 specialists participated in the first round and 18 in the second. ▶ The conclusions of the report are organized around three key modules: the cultural environment, the labour force, and education and training. ▶ In the light of these conclusions, the Working Group made a series of recommendations. The recommended measures are aimed at solving the main human resource problems uncovered by the consultations and at facilitating the development of an action plan to help the sector face the challenges of the future.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ Since the end of the 1980s, theatre and dance have both experienced declines in public attendance. The main causes of this have been a reduction in government assistance, the introduction of the GST, and the economic recession. Other causes include: increasing saturation of the market; phenomenal growth of the multimedia sector, and; growth of commercial theatre and decline of not-for-profit theatre. ▶ A weak Canadian dollar is encouraging U.S.-Canada joint ventures to produce television programs conceived primarily for the U.S. market. This tendency will have consequences for Canadian French-language television productions, as the U.S.A. cannot be depended upon to finance the greater portion of these program production costs. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ Future production levels will depend on the level of direct and indirect government financing, federal and provincial laws and regulations, including the CRTC's requirements regarding the granting of licences and Canadian content, and possible legislation on film distribution. ▶ Current copyright legislation is considered inadequate as it lags behind advances in distribution technologies. By the same token, if current distribution methods are maintained, it is considered necessary to update current laws to ensure that productions transmitted over telephone lines will still be covered by the Broadcasting Act. <p>Technological</p> <ul style="list-style-type: none"> ▶ Audio-visual productions might benefit, however, from sociological changes as further speciality cable television channels become operational and as distribution networks develop their capacity to transmit increasing numbers of broadcasts directly to viewer's homes. ▶ Adoption of new production and distribution techniques. ▶ Increasingly widespread and diversified use of computer technology. ▶ Sound and light technologies are also developing very rapidly (through fibre optics).

NOTE: Data and information presented above were current at the time of the study.

CHANGE DRIVERS (continued)	Social/Demographic <ul style="list-style-type: none"> ▶ Ethnic diversification and the aging of the population are forcing productions to increasingly reflect society's new realities, and they offer new opportunities to market live performance arts. ▶ Changing lifestyles, particularly home entertainment and the exodus to the suburbs, will probably reduce attendance at live performances and will create new challenges. ▶ Little or nothing is being done to promote the performing arts in schools, to replenish tomorrow's audiences.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ For the purposes of the project, the audio-visual and performing arts subsector includes: film and video production, television production, non-musical radio production, theatre and dance and opera. ▶ The main occupational categories are: the creators (choreographers, scriptwriters, etc.), the interpreters (producers, actors, etc.), technical staff (camera operators, editors, grips, etc.), and administrative personnel (directors, producers, marketing directors, etc.). ▶ In 1991, revenues from theatre, dance and opera totaled \$269 million. Canadian production budgets for films and videos came to \$2 billion in 1989. ▶ Between 1981 and 1989, employment in the cultural economic sector in Canada rose from 2.5% to 3.4% of total national employment; the corresponding portion of the GNP rose from 2.2% to 2.7%. ▶ There was marked tension between the new rationalism in management and the traditional subjectivity of the cultural realm. ▶ Government cutbacks imposed increasing financial constraints. ▶ Most live performances in Canada are produced by not-for-profit companies, which pay between 80 and 90% of the total salaries of Canadian artists. This percentage shows how important the not-for-profit sector is to the industry. ▶ This sector, like the other cultural sub-sectors, is relatively dependent upon government assistance.
UNIONIZATION / PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ Many workers are members of unions, guilds or associations that have set salary scales that employers must respect and that determine minimal standards for their occupation.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ In 1991, over 20,000 people were employed by professional not-for-profit theatre, dance and opera companies. ▶ In the same year, independent audio-visual productions generated 15,600 jobs. ▶ Salaries for the cultural sector as a whole were relatively low and irregular (averaging \$25,636). ▶ Establishing networks is considered necessary to ensuring a smooth transition between school and the labour market. ▶ As many members of the workforce are self-employed, the word "employers" does not often apply in the conventional sense; employers are seen rather as the clients of self-employed workers.

NOTE: Data and information presented above were current at the time of the study.

AUDIO-VISUAL AND LIVE PERFORMING ARTS INDUSTRY - 1995

EMPLOYMENT PATTERNS (continued)	<ul style="list-style-type: none"> ▶ By its very structure, self-employment is characterized by more frequent job losses than those experienced in the economy as a whole, by low or non-existent social benefits and precarious job security. ▶ Many cultural workers are highly educated. ▶ Visible minorities are under-represented. ▶ In middle-to-senior management and in technical positions, women are under-represented. ▶ In general, workers in the sector appear to out-number available job opportunities. ▶ The geographic distribution by percentage of active workers in the cultural economic sector is as follows: Ontario, 38.8%; British Columbia, 12.1%; Quebec, 3.9%; Atlantic Provinces, 6.3%; Prairies, 17.7%; and, Yukon-NWT, 0.3%.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Due to the cyclical nature of employment in the sub-sector, most workers are hired under contract, not permanently.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ There are many sources of basic training for people who intend to enter this sub-sector. ▶ It is believed that close links between educational institutions and the sector would be advantageous for newcomers as well as for as for people currently employed, but that such links are still tenuous. ▶ Career preparation and professional development are seen as necessary human resource practices in the sector.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ Technological change should have a considerable impact, particularly for the technical occupations in the audio-visual and live performance fields, and also for occupations related to post-production. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ Among many entry barriers are physical appearance, geographic origin, and the absence of the networking resources candidates need to promote their talents. ▶ Rising from student to professional status depends largely on the ability of the candidate to network with other students, professors, and colleagues, thereby gaining confidence at the professional level. In certain occupational categories, such as design and production, the best start for a novice is to become someone's assistant. Unfortunately, opportunities to do so are becoming rarer as the number of employers who can hire assistants is decreasing. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ As demands for workers with computer-related skills increase, continuous development is necessary, for this area and for all new technologies. ▶ As most careers in the cultural sector are rather short, the need to upgrade one's skills is omnipresent. ▶ Access by visible minorities and native people is limited. ▶ Audio-visual programs are considered inadequate as they do not prepare students sufficiently for the realities of the work world.

NOTE: Data and information presented above were current at the time of the study.

<p>KEY HR ISSUES (continued)</p>	<ul style="list-style-type: none"> ▶ People lack the time and money for development programs. ▶ Government training programs are criticized for aiding the unemployed, at the expense of currently employed workers who want to develop their skills. ▶ The main obstacles to education and training persist. They are geographic and economic. ▶ One of the main weaknesses of the programs would be the absence of preparation for the reality of work. ▶ A perception exists that people lack sufficient means to develop their skills. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ It often happens that the self-employed workers in the sector do not earn enough to take advantage of tax breaks, while not being able to rely on employers to guarantee fringe benefits. ▶ Even if remuneration has not improved, the benefits are better than they were 15 years ago. ▶ For many people, the nature of the work itself in this sector is a source of compensation.
<p>RECOMMENDED PRIORITIES FOR ACTION</p>	<ul style="list-style-type: none"> ▶ Creation of a network of national sub-sector groups capable of answering questions common to many Canadian cultural sub-groups. ▶ Creation of a sector council specifically for the audio-visual and live performance arts. ▶ Collaboration of the sector council and the federal government to fine tune federal policies that respond to the concerns of the sector. ▶ Creation of a database that includes all important global information relating to the sector and its concerns. ▶ Promote the creation of credit unions where workers in the arts and culture fields can obtain personal and small business loans. ▶ Carry out an in-depth study of the impact of the information highway and of other distribution methods on human resources in the audio-visual and live performance sector. ▶ Initiation, by the representatives of the sector's professionals, including the associations, guilds and unions, of an official dialogue with representatives of the major post-secondary educational institutions. ▶ The establishment, by associations, unions and guilds of fringe benefit packages, including retirement, health insurance, medical insurance and disability insurance plans. ▶ Encouragement of the creation of professional development courses in response to the training needs of all occupational categories (e.g. creators, interpreters, technicians, and administrative personnel). ▶ Creation of courses adapted to the needs of currently employed administrators and technicians. ▶ Development of skills upgrading programs to improve the match between workers skills and employers' requirements.

NOTE: Data and information presented above were current at the time of the study.

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NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1991 HUMAN RESOURCES STUDY OF THE AUTOMOTIVE PARTS INDUSTRY

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 127 page detailed report, entitled "<i>The Canadian Automotive Parts Industry, Human Resource Study</i>", was published in 1991. ▶ The study was undertaken by Canada Consulting Cresap.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Perceived shortage of skilled workers to keep abreast of technology change. ▶ Increased need for automated production processes and participative management style.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ A survey was conducted with independent Canadian automotive parts manufacturers in Ontario and Quebec, in order to assess technological impacts in this sector. ▶ A central list of automotive parts companies was compiled using the list of members of the Automotive Parts Manufacturers' Association of Canada (APMA) and other sources of company names. ▶ Over 700 questionnaires were mailed; 117 were returned.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ North American industry under competitive pressure; between 1960 and 1982 Japan's share of world motor production grew from 3% to 27%. ▶ Between 1960 and 1982 U.S. production dropped from 50% to 23%. ▶ Between 1982 and 1989 U.S. recovery due to foreign owned transplants but solely-owned North American companies remained at 23%. ▶ North American manufacturing base also eroded by use of offshore sources of autos and parts to take advantage of currency and labour costs. ▶ Mexico is emerging as a low-cost location for production. ▶ North American market plagued with overcapacity due to the presence of large traditional assembly facilities combined with new manufacturing capacity of foreign-owned transplants. ▶ Japanese approach to manufacturing greatly influences automotive industry; increased demand for Just-in-time (JIT) production, productivity improvement and participative workplace. ▶ Standards of quality and productivity are rising. ▶ Cost pressures are increasing. ▶ Time frames are shrinking. ▶ Responsiveness to customer needs is increasing. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ The European Community is attempting to reduce legislation and regulation to establish a more unified production and marketing base. ▶ New regulation of vehicle emissions, safety and fuel economy have been introduced, lead by environmental concerns.

NOTE: Data and information presented above were current at the time of the study.

CHANGE DRIVERS (continued)	<p>Technological</p> <ul style="list-style-type: none"> ▶ Application of "soft technologies". ▶ Introduction of innovative product and process technologies; the microcomputer is becoming an important function of the automobile. ▶ Adoption of CNC, CAD, CAM and SPC. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ Aging workforce. ▶ Predominately male workforce.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ Sector defined to include automotive parts manufacturing. ▶ Manufacturing and service sectors included. ▶ Canada produces about 4% of the world's motor vehicles, however, in 1989, Canadian automotive shipments were nearly \$46 billion. ▶ Integrated and international competitive market structure. ▶ New approaches are being taken toward assembler/supplier relationships. ▶ Outsourcing programs in which a higher proportion of parts come from outside suppliers. ▶ To maintain preferred supplier status, companies are now investing in technology and communication infrastructure. ▶ GM, Ford, Honda, Toyota, Hyundai, Volvo and Suzuki maintain plants in Canada; in 1986, Canadian-owned plants made up 74% of the total number of plants located in Canada and accounted for 24% of the value-added in the parts-industry. ▶ Total establishments not indicated. ▶ Primary node of geographic distribution: Ontario. ▶ The industry is in a downturn right now and for most parts companies, sales are low; difficult to meet expenses, let alone invest in new technology and highly skilled employees. ▶ Traditionally cyclical industry; major demand factor is consumer demand and changing lifestyle expectations; inflation and interest rate swings. ▶ Presence of foreign-owned automotive assemblers in Canada has facilitated the growth of the industry, much of which is indigenous to Canada.
UNIONIZATION/ PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ Unionization/professional associations not discussed in report.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ In 1989, the industry employed over 160,000 people. ▶ Mode of employment: FT/PT, contract and shift. ▶ Major occupations include: production work (electrical and mechanical), engineering, technology, management and secretarial. ▶ Main demographic characteristics not mentioned. ▶ Turnover, basic career path, mobility, loyalty to occupation not mentioned.

NOTE: Data and information presented above were current at the time of the study.

HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Provincial employment jurisdiction. ▶ Poaching of skilled and already trained employees from firms by offering higher salaries and other incentives. ▶ Compensation structure not mentioned. ▶ Downsizing practices not discussed, however, it is apparent that downsizing occurred during the 1980's and 1990's economic recession. ▶ Larger companies are adopting participative management practices, replacing hierarchical structures with flatter, leaner organizations.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ Rely on schools and colleges to provide basic training; co-op and apprenticeship programs widely used. ▶ Two approaches to training: i) competitive advantage approach where companies take a company-wide approach, and; ii) operational approach where companies provided training on an as-needed-basis, e.g. new equipment, new employees or promoted employees. ▶ Propose to establish an industry-wide training scheme that will lead to an Automotive Parts Certificate; will establish credentials that are controlled by industry but in line with educational institutions. ▶ Gap exists between education and industry; transition from school to work is not teaching standards of behavior expected in the work place. ▶ External and/or internal training for new employees, periodic health and safety training, longer term competitive advantage training, e.g., problem-solving, technology and job-specific training.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ Job rotation; establishment of work teams; encouragement of broader work-force involvement; strong emphasis on quality improvement. ▶ Job classifications are decreasing in number thus decreasing job specialization. However, specialization remains high in technical jobs. ▶ Shortage of reading, writing and math skills as well as speciality skills, e.g., mold makers. As a result, operations and business opportunities are being hindered. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ More sophisticated recruiting practices are needed; currently poaching skilled and trained employees. ▶ Need to raise entry standards. ▶ Training in various job functions gives employees more scope to vary their jobs and expand careers. Managers act as facilitators and coaches. ▶ Employment equity improvements not addressed in report. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ 1989 survey respondents indicated that almost 39% of all entrants have inadequate reading skills and that 46% have inadequate math skills. ▶ Technical skills, organizational skills and basic skills training and upgrading is necessary. ▶ Soft skills development, e.g. leadership, problem-solving and communication are increasingly important elements.

NOTE: Data and information presented above were current at the time of the study.

KEY HR ISSUES (continued)	<ul style="list-style-type: none"> ▶ New employees receive training in their first weeks on the job. ▶ Recently promoted employees are sent on courses or given internal training; training is provided when new equipment is purchased. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ Change rewards and recognition structure not mentioned. ▶ Occupational health and safety not an issue. ▶ Working conditions (shifts, noisy, etc.). <p>Other</p> <ul style="list-style-type: none"> ▶ Need for downsizing/outplacement not mentioned. ▶ Need for ongoing HR data. ▶ Federal government's Canadian Job Strategy total training expenditure from 1985 to 1989 was \$14 million; federal government has also assisted in the established of CLFDB; and the Ontario provincial government has established the Ontario Training and Adjustment Board.
RECOMMENDED PRIORITIES FOR ACTION	<ul style="list-style-type: none"> ▶ Companies will need to rely increasingly on internal training. ▶ Establishment of an Automotive Parts Sectoral Training Council (APSTC). ▶ Automotive parts certification.
TABLE OF CONTENTS	<ol style="list-style-type: none"> I. <u>Global Trends and Implications for Canadian Automotive Parts Manufacturers</u> Japanese Experience Drives Industry Change European Producers Move Towards A Freer Market North American Industry Is Responding Aggressively Changes in the Assembler/Supplier Relationship The Pressure on the Automotive Parts Industry Exhibits II. <u>Changing Skill Requirements in the Auto Parts Industry</u> Why Are Skill Requirements Changing? How Are Skills Changing? Skills for the New Technology Skills for the New Organization Skills for the New Employee What Is the Impact of Skill Changes on the Automotive Parts Industry? Exhibits III. <u>The Training Challenge</u> The Amount of Training The Changing Role of Training Types of Training Activity Technical Skills Training Organizational Skills Training Basic Skills Training Training Issues for Canadian Firms The Role of Governments Federal Programs Provincial Programs Exhibits

NOTE: Data and information presented above were current at the time of the study.

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NOTE: Data and information presented above were current at the time of the study.

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MEMBERS OF THE STEERING COMMITTEE	The steering committee included representatives from: The Automotive Parts Manufacturers' Association (APMA) The Motor Vehicle Manufacturers' Association (MVMA) The Canadian Auto Workers Association (CAW) Industry Science and Technology Canada (ISTC) Ontario and Quebec provincial governments Educators A diversified representation of companies throughout the auto parts industry

NOTE: *Data and information presented above were current at the time of the study.*

SUMMARY OF THE 1996 DEMOGRAPHIC STUDY OF THE CANADIAN AVIATION MAINTENANCE INDUSTRY

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 54 page detailed report, entitled "Demographic Study of the Canadian Aviation Maintenance Industry", was published in March 1996. ▶ Price Waterhouse prepared the study. ▶ The original human resources study was entitled "Human Resources in the Canadian Aircraft Maintenance Industry" and was published by Price Waterhouse in 1991.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Given the elapsed time since the initial sector study, a more qualitative exploration and validation of issues and trends was desired to assess prospective demand for new entrants and examine any shifts or changes of skill sets in the aviation maintenance industry.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ Price Waterhouse used two major research methods in the primary collection of information. ▶ A census survey of approved AMOs was distributed across Canada, 27.6% of companies, covering over 80% of the workforce, responded. ▶ Approximately 30 follow-up interviews with the medium and large size AMOs were conducted to augment and critically assess the survey findings and gather contextual qualitative information. ▶ One third of the interviews were conducted in person and in some cases included site visits of the maintenance facilities. ▶ This was supplemented with a review of current literature on aviation and aviation maintenance, with a focus on human resources and training matters.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ Passenger and cargo demand dropped significantly in the early 1990s. ▶ The charter industry in Canada has been increasing as domestic charter routes grow and new charter companies emerge. ▶ Outlook for aerospace manufacturing is positive and may draw people away from aviation maintenance. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ International regulatory changes enable global restructuring, inevitably involving airlines in Canada. <p>Technological</p> <ul style="list-style-type: none"> ▶ Major Airlines have continued to upgrade their fleets, slowly replacing aging aircraft, but fleet renewal is much slower than anticipated five years ago. ▶ Statistical process control, cell-based manufacturing and advanced electronics technologies are continuing to make inroads in the industry. ▶ Aging aircrafts is driving the need for more structural repair technicians. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ Downsizing to the Department of National Defence (DND) is expected to account for the largest decrease in the aviation maintenance workforce over the next five years, an expected drop of 1,500 by 1997. ▶ The proportion of military aviation maintenance personnel is still large but decreasing. ▶ Maintenance requirements are expected to expand moderately, as more commuter aircraft require maintenance.

NOTE : Data and information presented above were current at the time of the study.

CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▸ Service Sector ▸ The Performance of the aviation maintenance industry is integrally linked to that of the broader aviation industry and ultimately to the demand for air transport. ▸ The Gulf War and the recession saw a decline in cargo shipments as well as business and leisure travel. ▸ Wide distribution of employment but concentrated in Quebec, Ontario, Alberta and B.C. In Atlantic Canada 1/3 of firms predict decreasing or no change in employment. Growth is expected mainly in the west and Quebec. ▸ The original report estimated that there were approximately 1,3000 firms involved in aviation maintenance. The 1995 survey database had slightly more than 1,100 firms practicing. ▸ Seventy percent of the individual operations in the aviation maintenance industry are repair and overhaul and charter operations. ▸ People often begin their careers in smaller operations and move to the larger ones when they have more experience. ▸ A key success factor involves the scheduling or phasing of maintenance to allow maximum capacity utilization of equipment and personnel.
UNIONIZATION / PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▸ About 50% unionized: International Association of Machinists and Aerospace Workers (IAMAW) and Canadian Auto Workers (CAW). ▸ 5 regional Aircraft Maintenance Engineers (AMEs) professional associations with approximately 2,000 members.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▸ The total civilian population for the industry, in 1995, is estimated at 16,500, down approximately 14% from the estimate of 19,300 in the 1991 report. When DND employees are included the population count rises to 23,700. ▸ Total employment has declined since the late 1980s, however, almost half the firms covered in the survey reported that their total aviation maintenance employment would increase in the next five years. ▸ Seventy percent of employment is found in 4% of the AMOs. These four percent include the major carriers, Air Canada and Canadian Airlines International; DND as well as other government run aviation. ▸ Repair and overhaul firms account for a slightly smaller percentage of the workforce than reported in 1991. ▸ Excluding DND, the majority of the workforce is in the western provinces and the north. ▸ Aircraft maintenance specialty has the largest population of all the specialties, nearly quadruple the size of the next specialty, avionics. ▸ Aircraft structural repair will show the largest increase in employment in the next five years. ▸ White males populate the majority of the industry. Despite some progress in the industry, women, persons with disabilities, Aboriginal employees and visible minorities are still under represented in the aviation sector as a whole. ▸ Fifty percent of the workforce is between 31 and 45 years of age, and almost one-fifth of the workforce is somewhat younger. ▸ Major airlines have an older workforce than the regional, independent charter airlines. ▸ Depending on the specialty, between 35% and 78% of AMOs indicated that they seek recruits with at least a college diploma. Over 80% of AMOs wanted previous experience or other qualifications when hiring.

NOTE : Data and information presented above were current at the time of the study.

HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> Following the release of the 1991 report, the Canadian Aviation Maintenance Council (CAMC) was formed. They have succeeded in completing several important human resources projects, including the development of occupational and training standards for aviation maintenance trades. CAMC also designs and implements a certification process for aircraft maintenance employees and an accreditation procedure for community colleges offering aircraft maintenance programs.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> Formal structured recruitment programs are starting to look not just at the aptitude for basic mechanics but for interest in technical reading and the ability to follow rules, measure and create. Training for some specialties can be delivered on a just-in-time basis, whereas other specialties require longer lead times for human resources planning. The largest specialties, aircraft maintenance, avionics and structures, require more extensive training (one to two years' classroom instruction) compared to specialties such as aircraft painting and interior refinishing specialties. Low levels of recruitment due to the recession have lowered the amount of entry level training that is done at AMOs. Large AMOs are partnering with educational institutes to ensure that the schools are training students with the appropriate basic skills. AMOs tend to use colleges more often as a source of training instead of conducting in-house training. DND like the civilian AMOs, has established links with the community colleges for aviation maintenance training. Video conferencing and other communications technologies are expected to make training more efficient.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> Multi-skilling and cross training have become very important trends, going farther than originally anticipated in the 1991 report. Entrants require higher levels of literacy and numeracy. New ways of organizing workers in modular or cellular teams and the growth of computers in the workplace has increased the need for non-technical skills, such as communication and basic keyboard skills. Firms are placing greater emphasis on Statistical Process Control (SPC) and visual displays requiring employees to upgrade their math and reading skills. Many employees have skills, which are transferable from other industries with some "add-ons" for aviation maintenance. <p>Recruitment</p> <ul style="list-style-type: none"> Future retirements of skilled workers will have a domino effect in the industry, forcing more recruitment. AMOs are relying on a "just-in-time" approach to recruiting. DND has a more proactive strategy on entry level recruiting but they will also rely more on community colleges. Human resources practices initiated have increased the number of women and visible minorities in the workforce but more needs to be done. <p>Training and Development</p> <ul style="list-style-type: none"> Large AMOs are moving out of delivering entry-level training. Recurrent training needs to keep pace with technological and organizational change.

NOTE : Data and information presented above were current at the time of the study.

KEY HR ISSUES (continued)	Reward/Retention <ul style="list-style-type: none"> ▸ Under the terms of some collective agreements, those with over 25 years of service are retiring as early as 47. ▸ Shift work and predominantly night shifts reduce the attractiveness of jobs.
RECOMMENDED PRIORITIES FOR ACTION	<ul style="list-style-type: none"> ▸ The industry is leaner but poised for modest growth. The total demand for hiring is approximately 2,500 in the civilian market, of which new entrants will account for about 1,600. ▸ The movement of people from military to civilian aviation maintenance will temper the need for new entrants.
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NOTE : Data and information presented above were current at the time of the study.

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NOTE : Data and information presented above were current at the time of the study.

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NOTE : Data and information presented above were current at the time of the study.

MEMBERS OF THE STEERING COMMITTEE	Employers Unions/Professional Associations Industry Associations and Councils Government
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NOTE : Data and information presented above were current at the time of the study.

SUMMARY OF THE 1996 HUMAN RESOURCES STUDY OF THE BIOTECHNOLOGY INDUSTRY

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ This 123 page study (including appendices), entitled “<i>Building Long-Term Capability Now: Canadian Human Resources Study in Biotechnology</i>”, was released May 1996. ▶ The contract for this national project was awarded to the Paget Consulting Group Inc.; Kingsley and Associates were the regional partners for British Columbia and Alberta; Trimension Training and Consulting for Saskatchewan and Manitoba; The Boston Consulting Group for Ontario; Groupe Secor for Quebec; and Nova Scotia Research Foundation for the Atlantic Region.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Rapidly growing sector. ▶ The Canadian Biotechnology Human Resources Study was initiated by industry to improve understanding of the challenges this sector faces and to chart a future course for meeting its long-term human resource requirements.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ The study concentrated on the 120 or so firms that are considered core biotechnology companies; that is, their principal business is “new” or “second-generation” biotechnology involving the industrial use of recombinant DNA, cell fusion and novel bio-processing techniques. ▶ It looked at the human resources requirements of firms at each stage of development; early start-up, pre-clinical or field trials, clinical/field trials, and full commercialization. ▶ Data were obtained from 89 companies (16 each in Atlantic Canada, Quebec, and Ontario, 24 in the Prairie Provinces, and 17 in British Columbia) to determine the current and required human resources capabilities. Of these companies, 42 per cent operated in the health sector, 31 per cent in the agriculture, forestry, and veterinary sectors, 16 per cent in environment, and 11 per cent in aquaculture. The majority of the firms (54 per cent) were operating at full commercialization.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ Commercialization of enabling technologies in life sciences. ▶ Science-driven sector. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ Biotechnology products fall into several categories: foods, medicine, diagnostics, and environmental agents. They are regulated under a range of laws administered and enforced by a number of federal and provincial departments and agencies. <p>Technological</p> <ul style="list-style-type: none"> ▶ Globalization of research and development. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ Not mentioned

NOTE: Data and information presented above were current at the time of the study.

CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ More than 300 companies in Canada are involved directly and indirectly in biotechnology. ▶ Although often referred to as an industry, biotechnology is recognized as well as a driving technology underlying transformation in many sectors of the economy, such as agriculture and food, pharmaceuticals, and environmental management. ▶ Core biotechnology firms are small to medium-sized firms employing less than 25 people. ▶ The industry employs more than 8,000 people. ▶ The sector generates more that \$1.3 billion annually - fully 65 per cent of this is from exports.
UNIONIZATION / PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ Employees are generally represented by the Canadian Federation of Biological Societies.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ Already a significant employer of highly educated and skilled workers, scientific and technical jobs in the industry are filled largely by people with post-graduate degrees in a variety of disciplines that constitute biotechnology (e.g. biology, chemistry, physics, engineering). ▶ Assuming a moderate rate of growth (8 per cent annually), the industry can be expected to create nearly 1,300 new jobs in scientific research and technical and support activities by the year 2000. During the same period, an additional 2000 jobs will be created in functions related to the commercialization stage, as well as 700 positions in management.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ The development of a human resources strategy generally lags behind the development of other aspects of the business. ▶ The larger companies have formalized their human resource policies, but for smaller companies (less than 35 employees) the intent is there but the approach is more informal. ▶ Informal strategies far outweigh the formal.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ Specialization is very focussed in scientific fields. As a result, companies will need to broaden and intensify their internal training efforts.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ The development of a biotechnology company involves the continual acquisition of specific expertise, that which is developed mostly through industrial experience. ▶ Scientific and technical skills are needed along with regulatory patenting, manufacturing, marketing, financing and other business skills.

NOTE: Data and information presented above were current at the time of the study.

KEY HR ISSUES (continued)	<p>Recruitment</p> <ul style="list-style-type: none"> ▶ Experienced scientific and technical personnel are in short supply. ▶ Companies have to recruit internationally to find the skilled people they need. ▶ The international pool of skilled people is limited, and the competition for qualified people is expected to intensify. ▶ Co-op programs are the preferred hiring route for university and college students. Companies will be seeking graduates that are at the forefront of emerging fields, such as molecular medicine, gene therapy, signal transduction, combinatorial library, and genomics. ▶ Computer-based competencies such as bioinformatics and molecular modeling will become important as companies deal with the integration of the traditional sciences and the emerging information sciences. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ The study found that universities and community colleges should be able to handle the demand for post-doctoral fellows, post-graduates, university graduates and technicians. ▶ The capability gap will relate more to the specialized requirements of emerging fields in biotechnology, and in the area of intellectual property and regulatory requirements. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ The biotechnology industry is poised for unprecedented opportunities to develop and grow. Potentially, thousands of highly skilled, well paid jobs could be created. ▶ The experience base does not exist in Canada at present to provide all the people needed to foster growth and development. <p>Other</p> <ul style="list-style-type: none"> ▶ Not mentioned.
RECOMMENDED PRIORITIES FOR ACTION	<ul style="list-style-type: none"> ▶ The company executives and industry representatives that made up the study Steering Committee, have recommended initiation of a wide ranging human resources strategy for the industry. It includes the following elements: <ul style="list-style-type: none"> - a cooperative approach to strategic immigration to secure skills not available in Canada; - a regionally focussed training strategy to pool resources of firms in regional biotechnology clusters and to make the best available training affordable for companies of all sizes; - stronger strategic and operational relationships between the biotechnology industry and academic and research organizations; - a cooperative approach, involving the industry and federal government, for developing personnel in the regulatory and intellectual property fields; - partnerships with the educational system to improve general awareness of biotechnology; and - creation of a Biotechnology Sectoral Human Resources Council to develop and implement the study findings and recommendations.

NOTE: Data and information presented above were current at the time of the study.

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2. Use regional biotech industry clusters to provide best available training for biotechnology companies.
3. Strengthen strategic and operational relationships between the biotechnology industry and academic and research organizations.
4. Develop a cooperative approach to human resources development with the federal government in the regulatory and intellectual property fields.
5. Work with the education system to encourage the long-term career attractiveness of the biotechnology industry.
6. Establish a Biotechnology Sectoral Human Resources Council to develop and implement the agenda set out in this report.

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NOTE: Data and information presented above were current at the time of the study.

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NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1993 HUMAN RESOURCES STUDY OF THE BROADCASTING INDUSTRY

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 124 page detailed report, entitled "<i>Human Resources in the Canadian Broadcasting Industry</i>", was published in 1993. ▶ The research was undertaken by Peat Marwick Stevenson & Kellogg, and assisted by Abt Associates of Canada, Télécom Inc., Stephen M. Armstrong Inc. and Communications Management Inc.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Technological change is creating concerns re: unregulated alternative programming choices.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ A variety of methods were used to carry out this study, which began with a review of action plans and related reports produced by companies and associations from the industry, as well as by government departments. ▶ Previously obtained information was used to question industry specialists and visionaries who offered their viewpoints on what direction the industry should take. ▶ The summary of these viewpoints was analyzed by the Steering Committee and by focus groups composed of representatives from the various sectors of the industry. ▶ The sessions were intended to establish a consensus on the future of the industry, particularly with respect to technologies, service, ownership and structures, given that these are the questions the industry will be facing during the coming decade. ▶ These strategic issues which the industry needs to resolve will have repercussions on human resources. ▶ To identify the repercussions, focus groups and interviews were done with representatives from companies, training institutions, unions, and government departments and agencies. ▶ The analysis of data from Statistics Canada and the Canadian Radio, Television and Telecommunications Commission (CRTC) permitted a better understanding of these questions. ▶ The Steering Committee then identified a range of solutions to these questions. ▶ The report presents the viewpoints of the members of the Steering Committee. The recommendations are intended to propose an overall direction, as well as a basis for discussion, leading to a continuing dialogue with the various stakeholders of the industry.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ Recession has cut revenues, net incomes and profitability, caused some consolidations. ▶ Cuts in advertising dollars (as a source of revenue). ▶ Industry restructuring/expanding to include specialty services and niche markets such as TSN, YTV, MuchMusic, Newsworld.

NOTE: Data and information presented above were current at the time of the study

CHANGE DRIVERS (continued)	<ul style="list-style-type: none"> ▶ Shift from “horizontal” to “vertical” services. ▶ Decrease in local and in-house production with the exception of news and information programming. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ Employment equity legislation (entire chapter devoted to EE). <p>Technological</p> <ul style="list-style-type: none"> ▶ Technical advances will allow personalized cable services to customers who will only pay for what they want. ▶ Interactive capacities and expansion of channel capacity; à la carte discrete programs for consumers. ▶ Private TV will computerize and automate program production and administration; robotics. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ Consumers in future will be technologically literate (e.g. VCR's) and more demanding about variety, quantity and quality of programming. ▶ Consumer becoming more discriminating in preferences for programming.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ Sector definition encompasses: radio and TV stations, licensed cable TV, national pay and specialty services, public education broadcasters, independent producers, National Film Board, CBC (SIC not available). ▶ Service sector. ▶ Total revenues for TV and radio systems estimated at \$4 billion and \$1 billion respectively in 1990. ▶ Market structure, links to suppliers, source of R&D, technological change not mentioned. ▶ Diversity of ownership such as small private operations and large public organization, ownership in cable TV becoming concentrated as some owners leave the industry. ▶ Revenue growth has slowed considerably due to the recession; recent erosion of net income as a percentage of revenue. ▶ Key success factors: access to market through licensing, and marketing becomes more important in competitive environment.
UNIONIZATION/ PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ Unions have some concerns about initiatives they see in the workplace. Employment equity legislation, for example, is considered a threat to union seniority rights and to the merit principle.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ Total employment estimated at 45,000 full-time and 15,000 part-time or freelance workers in 1991. ▶ Expectation that full-time employment will decrease over the next few years as multi-skilling increases, more use of freelance workers and more contracting-out occurs. ▶ Major occupations: programming staff, technical staff; sales and promotion, and administrative staff; fewer technical staff will be required, and they will possess various skills; sales staff have increased due to increased marketing efforts as competition has increased.

NOTE: Data and information presented above were current at the time of the study

EMPLOYMENT PATTERNS (continued)	<ul style="list-style-type: none"> ▶ Demographic characteristics: broadcasting employees are younger than Canadian labour force as a whole; employment equity groups poorly represented in influential positions. ▶ Turnover: very low in recent years due to recession.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Federal employment jurisdiction. ▶ Recruitment practices: response to skills shortages in past has focussed on "raiding" other companies for employees. ▶ Downsizing in recent years mostly through early retirement.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ Sources of basic training/education: college, universities and on-the-job training. ▶ On-the-job experience for new entrants is an essential component of skills development; but there are difficulties with finding placement for students. ▶ National accreditation has received some support from industry as a way of determining minimum acceptable levels of performance. ▶ Some industry-education links in place such as student placements, use of industry facilities for training; in general, links are weak. ▶ Common training activities: on-the-job training, courses developed by large companies are shared with smaller ones and manufacturers of equipment provide training.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ Unions see employment equity, multi-skilling as a threat. ▶ Increased use of multi-skilled individuals and freelancers and more contracting-out for services. ▶ Also, shift from local stations to specialty vertical services. ▶ Emerging skill requirements: higher levels of computer skills at all levels; combination of technical and creative skills; ability to use technology creatively; and marketing skills for all staff (to better identify opportunities for sales in all aspects of the operations). ▶ More creative sales force needed to pursue advertising dollars more aggressively. ▶ Skill shortages: production editing, technical maintenance, transmission technology and there is also a "braindrain" to the U.S. of skilled computer technicians, screenwriters and directors. ▶ Multi-skilling will be required more and more. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ Based on "raiding" from other companies. ▶ Based on "who" you know in the industry. ▶ Need to broaden recruitment approaches so that individuals with higher skill sets are admitted to the industry. ▶ Career development/counselling supports not strong. ▶ Recognized need to improve employment equity.

NOTE: Data and information presented above were current at the time of the study

KEY HR ISSUES (continued)	<p>Training and Development</p> <ul style="list-style-type: none"> ▶ Large firms have management training programs; but most firms are too small to offer such training or have not yet addressed this need. ▶ Retraining existing employees for multi-skilling purposes may be difficult if skills cross over union boundaries. ▶ Technical Retraining/Upgrading: <ul style="list-style-type: none"> - Higher computer skills required at entry and elsewhere. ▶ Management Development: <ul style="list-style-type: none"> - Need more sophisticated management skills: broad-based business, communications and people skills required. - Need managers with strategic orientation and broad focus; knowledge of the whole operation; entrepreneurial orientation; marketing; finance; and, law. ▶ Education/Training Infrastructure for Entry Level: <ul style="list-style-type: none"> - Current college/university programs are not able to provide students with creative aspect of working with technology; several training institutions offer new entrant programs which promote multi-skilling; improvement needed in entry-level skills, in particular in cinematography, electronics and sound. - Increased flexibility needed from unions to minimize over-specialization of trades which results in rigidity and inefficiencies. - Adequacy of continuous learning infrastructure/supports not mentioned <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ Not mentioned. <p>Other</p> <ul style="list-style-type: none"> ▶ Need for ongoing HR data mentioned in recommendations. ▶ Coordination of federal and provincial government funding for human resource development would be beneficial to the industry.
RECOMMENDED PRIORITIES FOR ACTION	<ul style="list-style-type: none"> ▶ Establishment of a National Human Resource Board to deal with human resource issues such as: employment equity requirements; development of specialized courses; formalization of internships; establishment of national certification standards; establishment of industry-wide training needs; and, improvement of employment data.
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MEMBERS OF THE STEERING COMMITTEE	<p>Employers</p> <ul style="list-style-type: none"> Advanced Broadcasting System of Canada Inc. (ABSOC) BCTC CTV Television Network Ltd. Dartmouth Cable TV Ltd. The Family Channel Global Television Network Golden West Broadcasting Ltd. MacLean Hunter Limited Nation's Capital Television Inc. North Eastern Cablevision Ltd. Radiomutuel Sunwapta Broadcasting Ltd. TSN Winnipeg Video Incorporated YTV <p>Unions/Professional Associations</p> <ul style="list-style-type: none"> Broadcast Educators Association of Canada National Association of Broadcast Employees and Technicians (NABET) Toronto Women in Film and Television <p>Industry Associations and Councils</p> <ul style="list-style-type: none"> Canadian Association of Broadcasters Canadian Cable Television Association Canadian Conference of the Arts Canadian Film and Television Production Association <p>Government</p> <ul style="list-style-type: none"> Canadian Broadcasting Corporation Communications Canada Employment and Immigration Canada National Film Board of Canada (NFB)

NOTE: Data and information presented above were current at the time of the study

SUMMARY OF THE 1993 HUMAN RESOURCES STUDY OF THE COMMUNITY COLLEGES INDUSTRY

Note: A related technology study was released in 1997.

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 81 page detailed report, entitled "<i>Human Resource Study of the Canadian Community Colleges and Institutes Sector</i>", was published in 1993. ▶ The research was undertaken by Price Waterhouse.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ College participation in other sector studies which identified needs for on-going training and development of college instructors; ▶ Greying of faculty.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ Research began with an extensive series of exploratory interviews with people experienced in the colleges/technical institutes, industry and government. ▶ Twenty case studies of colleges/technical institutes across Canada were conducted and involved interviews and focus groups with administrators, union leaders, faculty, staff, students, and industry representatives in the community. ▶ Two separate panels of experts on emerging educational and workplace technologies were consulted for their views on the technology trends and their implications for college instruction. ▶ A survey was conducted of 1,168 respondents in colleges/technical institutes across Canada. Stakeholders surveyed included the college president, member of the board of governors, human resource manager, president of the faculty association, president of the staff association, registrar and president of the students association. ▶ Further interviews were conducted with a range of people in industry and education. ▶ Over the course of the research, over 600 people in all regions of Canada were contacted through interviews and meetings including people with the college systems, employers, representatives of industry associations and unions.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ Funding cutbacks from provinces and changes in modes of funding have severely constrained their capacity to keep up with changes. ▶ Increasing competition from commercial trainers and from colleges outside Canada. ▶ The rationalization of college programming and differentiating their services from other colleges; focussing on niche areas. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ Industry creation of occupational standards, and accreditation of training providers. <p>Technological</p> <ul style="list-style-type: none"> ▶ Emerging technologies for education delivery coupled with need to adapt delivery to new learning situations.

NOTE: Data and information presented above were current at the time of the study.

CHANGE DRIVERS (continued)	<ul style="list-style-type: none"> ▶ The need to keep pace with market, technological and economic changes, affecting employment opportunities for graduates. Social/Demographic <ul style="list-style-type: none"> ▶ Middle-aging workforce, not yet ready to retire. ▶ Surge in enrollment and applications during recession. ▶ Increasing diversity of student population. ▶ Need to increase productivity in delivery of training services. ▶ There is an interest in strengthening the industry through education partnerships, and working with sector councils.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ Includes public post-secondary institutions providing career, vocational and university transfer programs, and includes Cégeps, technical institutes and community colleges (term “college” for all). ▶ It is a service sector. ▶ Estimated total annual revenues of \$6 billion. ▶ Tuition forms a relatively low proportion of funding, where as fee-for-service training is an increasing portion of funds. ▶ Payroll costs represent a high portion of operating costs. ▶ In the public sector, colleges in most provinces are board governed, however, autonomy in setting programs varies. ▶ There are 160 colleges with a total of 700 campuses and numerous smaller learning centres. ▶ Total enrollment was estimated at 2 million. ▶ Colleges are often large employers relative to their communities. ▶ Quebec has the most colleges; Ontario has the largest; and BC and Alberta also have many larger colleges, whereas other provinces tend to have smaller colleges. ▶ There is a wide diversity in programming. ▶ Program decisions are often made at the local level (exception in Quebec and to some extent New Brunswick). ▶ A college rarely acts like a cohesive whole. There are very strong sub-cultures, and gaps between technology/vocational areas and academic areas. ▶ The key success factor in responsive programming is direct link between instructors and employers. ▶ Links to industry vary considerably across colleges and even within colleges. Health programs have had strong links through accreditation processes, and technology programs tend to be linked to local employers rather than to a broader sectoral representative.
UNIONIZATION/ PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ Almost all instructors and support staff are unionized.

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EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ Total full-time employment is 25,000, and up to 150,000 work on a sessional or contract basis. ▶ Non-standard employment such as part-time and contract is growing while full-time employment is steady or declining. ▶ Full-time instructors tend to teach 8 months/year and have limited student contact hours per week. ▶ There are several function-specific associations. ▶ The major occupations include: instructors, counsellors, librarians, technical support staff, other support staff and administrators. ▶ The average age of instructors is over 40. ▶ The workforce is predominantly white, non-disabled, and female employees are concentrated in teaching traditional occupations (medical, secretarial). ▶ Recruitment patterns will not adjust age profile as new recruits are getting older. ▶ College employment is rarely a first job as almost 50% of recruits previously worked in business or industry. ▶ There is very low turnover as career paths are truncated or plateaued. ▶ There is little intercollege or interoccupational mobility, little entry above instructor level, and little movement out of college employment. ▶ The administrative jobs are not always attractive so there is difficulty filling senior administrative positions. ▶ There is very little limited support staff career development.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ There is provincial employment jurisdiction. ▶ The recruitment practices differ for full-time and part-time employees as it is less formal and less stringent for part-timers. ▶ There is little outreach recruitment. ▶ Provincial advertising is used for full-time instructor recruitment, whereas national advertising is used for administrators. ▶ There is step-wise recruitment from part-time to full-time. ▶ Minimum recruitment requirements tend to target practitioners rather than teachers. ▶ The compensation structure rewards formal education attainment over additional experience. ▶ The downsizing process includes redeployment in which those with seniority can bump others.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ People are hired for their work experience, and instructional skills are acquired after entry to college employment, either through on-the-job training or through formal instructional skills programs. A significant portion of instructors enroll in further education (B.Ed. M.Ed, etc). ▶ Formal learning also dominates management development. ▶ Investment in human resources development (HRD) varies; 40% spend less than 1% of payroll.

NOTE: Data and information presented above were current at the time of the study.

<p>TRAINING AND DEVELOPMENT PATTERNS (continued)</p>	<ul style="list-style-type: none"> ▶ Committees ration HRD funds with focus on individual applications. ▶ The in-house infrastructure varies but larger colleges tend to sponsor workshops and seminars. Professional development animators make a significant difference to uptake of human resources development by faculty and staff. ▶ There is stated preference for experiential development but it is not realized in practice. ▶ Industry-education links encourage renewal. ▶ Access to development limited for support staff. ▶ Formal training activities more common than industry attachments. ▶ There is limited use of performance appraisal in HRD planning. ▶ There is substantial investment in professional development time (an average of 2 months/year) in addition to training budgets in range of 1% of payroll. ▶ Training activities include in-house seminars, workshops, and university programs.
<p>KEY HR ISSUES</p>	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ Need to re-engineer the instructional delivery approach to achieve productivity gains. There are some examples available but there is considerable resistance to changing work designs/work practices. ▶ There is potential blurring of occupational lines with a team approach, but instructors remain dominant where there is some differentiation of design and delivery. ▶ There is lack of strategic approach to HRD; need to enhance performance appraisal and link to HRD; increased need for renewal of leadership. ▶ There is a need for enhanced instructional design, delivery skills and improved counseling skills. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ There are minimal recruitment difficulties, and shortages correspond to areas of shortage in the industry (college competes for practitioners). ▶ There is a major requirement for retraining/upgrading of technical/discipline skills. ▶ There is a need to improve outreach recruitment and to be more rigorous in part-time (PT) recruitment. ▶ Colleges have a positive image as "good" employers and readily attract applicants in most situations. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ The quality of instruction skills development for entry level varies, with little access for part-time employees. ▶ Need to build a continuous learning culture, and energize renewal. ▶ Need facilitation of industry attachments.

NOTE: Data and information presented above were current at the time of the study.

KEY HR ISSUES (continued)	Reward/Retention <ul style="list-style-type: none"> ▶ Need to change compensation structure to reward technical renewal. ▶ Occupational Safety & Health (OSH) is not a big issue but there is some concern over stress, and violence. ▶ The working conditions of full-time staff are seen as almost too good. Other <ul style="list-style-type: none"> ▶ There is a major need to enhance workforce diversity, but there is a risk that with low turnover, colleges will become less representative before improving. Employment equity is linked to education equity. ▶ Rationalization to continue; need to redeploy; some downsizing expected. ▶ Need to improve quality and consistency of Human Resources (HR) data.
RECOMMENDED PRIORITIES FOR ACTION	Establishment Level <ul style="list-style-type: none"> ▶ Emphasis on technical renewal and on instructional skills. ▶ Improve appraisal process. ▶ Change reward structures to encourage experiential development. ▶ Improve recruitment practices (for part-time and employment equity). ▶ Re-engineer administrative and delivery processes. ▶ Leadership development. Sectoral Level <ul style="list-style-type: none"> ▶ Facilitate industry-education links. ▶ Facilitate inter-college exchange of innovations. ▶ Improve HR data quality. ▶ Focus on continuous learning.
TABLE OF CONTENTS	<ol style="list-style-type: none"> 1. Introduction 2. Community Colleges/Technical Institutes in a Dynamic Labour Market Context 3. The College Human Resource Base 4. College Human Resource Strategies 5. Economic Restructuring and Employment Opportunities 6. Technological Change 7. Changing Student Enrolments and Expectations 8. Innovation and Renewal: Areas for Action
LIST OF TABLES/ GRAPHS	<ol style="list-style-type: none"> 1. <u>Introduction</u> Modular Structure The Canadian Colleges/Technical Institutes/Cégeps - A Brief Profile 2. <u>Community Colleges/Technical Institutes in a Dynamic Labour Market Context</u> Program Rationalization is an Important Challenge for the College Collaboration in Occupational Standards and Training Cycle 3. <u>The College Human Resource Base</u> Level of Full-time and Part-time Employment in Colleges/Technical Institutes College Instructors' Career Paths 4. <u>College Human Resource Strategies</u> Expenditure on Human Resource Development As a Percent of Payroll 6. <u>Technological Change</u> Dynamic Links in Adoption of Technology Education Technology Choices

NOTE: Data and information presented above were current at the time of the study.

<p>MEMBERS OF THE STEERING COMMITTEE</p>	<p>Unions/Professional Associations Canadian Labour Congress George Brown Faculty Union</p> <p>Industry Associations and Councils Algonquin College Students' Association Association of Canadian Community Colleges Canadian Automotive Repair and Service Council The Canadian Chamber of Commerce</p> <p>Educators/Employers Algonquin College, Ontario Capilano College, British Columbia John Abbott College, Quebec Holland College, Prince Edward Island Mount Royal College, Quebec Niagara College of Applied Arts & Technology, Ontario Nova Scotia Community College Red Deer College, Alberta Southern Alberta Institute of Technology Wascana Campus, Winnipeg, Manitoba</p> <p>Government Department of Advanced Education and Training, New Brunswick Human Resources and Labour Canada Secretary of State, Education Support Branch Provincial Representative, British Columbia (Dr. Paul Gallagher)</p>
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NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1993 HUMAN RESOURCES STUDY OF THE **CONSUMER ELECTRONIC AND APPLIANCE SERVICE INDUSTRY**

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 94 page detailed report, entitled "<i>A Call for Action: Human Resource Challenges in the Canadian Consumer Electronic and Appliance Service Industry</i>", was published in 1993. ▶ The study was prepared by Price Waterhouse.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ The desire for mandatory trade status.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ A literature review was conducted. ▶ Over 90 interviews were completed with stakeholders including: industry associations, manufacturers, independent service shop owners; service managers and technicians, union representatives, educators, students and government representatives. ▶ Focus group discussions were held with students, service technicians and service managers. ▶ During 19 site visits to service shops, interviews were conducted and operations were observed. ▶ A national survey of over 1,000 service shops and 2,000 owners, managers and technicians was executed.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ The lower costs of new electronics products, plus new features reduce consumer interest in out-of-warranty repair. ▶ Emerging patterns in discount retailing, with no service provided. ▶ The longer and more comprehensive product warranties puts financial pressure on service centres. ▶ There is a changing model of service delivery with fewer owner/managed shops, and more alliances and networks along with the emergence of "one product" service shops. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ There are new regulations on CFC removal <p>Technological</p> <ul style="list-style-type: none"> ▶ There has been an explosion of new consumer electronics products and rapid change in electronics technology. There is less change in appliances, however appliance technology is beginning to change (e.g. microwave dishwashers). ▶ Improved product quality lowers requirement for repair. ▶ Electronics products are not designed for repair because they have few parts and are not accessible. ▶ New technology is emerging for distant diagnosis and, in some cases, repair.

NOTE: Data and information presented above were current at the time of the study.

CONSUMER ELECTRONIC AND APPLIANCE SERVICE INDUSTRY - 1993

CHANGE DRIVERS (continued)	<ul style="list-style-type: none"> ▶ There is a blurring between consumer and commercial products (e.g. fax, computers). <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ The aging workforce. ▶ There are more complex products that create consumer "misuse" problems. ▶ There is consumer demand for quality service and fast turnaround. ▶ There are growing environmental concerns (particularly regarding CFCs in refrigeration products).
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ Service sector. ▶ The industry includes establishments or divisions of establishments specializing in the diagnosis and repair of electronic and mechanical equipment used in the home. ▶ There are two relatively distinct subsectors: appliance and electronics. There are relatively few shops that offer both appliance and electronics (most commonly major retailers). ▶ There are relatively low barriers to entry, but the mandatory trade quality in Alberta functions as something of a barrier to entry although the level of enforcement is questionable. ▶ The types of shops includes: manufacturers' service shops, self-servicing retailers, self-servicing dealers, authorized service shops and independent service shops. ▶ Independent shops are the most common but authorized shops handle more product. ▶ Independent one or two person service shops account for over 75% of service shops. Some manufacturers and self-servicing retailers tend to be larger shops in major urban centres. ▶ Appliance service delivery is often in-home whereas electronics is in-shop. ▶ There are 9,600 - 12,000 appliance shops and 6,400 - 8,000 electronic service shops. ▶ Shops may be authorized to repair specific products for a manufacturer. ▶ Almost 100% of electronics products and 40% of appliance products are designed and manufactured abroad, making links more tenuous. ▶ The link to manufacturers is critical in access to manuals and parts, yet the relationship is often uneasy. ▶ In-warranty repairs form a foundation of many operations but returns are low. ▶ It is very widely dispersed geographically with Ontario and Quebec accounting for 54% of workforce. ▶ Service shops are located in both urban and rural centres. ▶ There is a trend towards centralization with hub and spoke operations, for portable products. ▶ Key success factors include: speed of repair which depends on specialization, and frequency of repairing that type of product; control of overhead costs, particularly, inventory; management skills; dispatch, parts and routing are important in appliance repair.

NOTE: Data and information presented above were current at the time of the study.

CONSUMER ELECTRONIC AND APPLIANCE SERVICE INDUSTRY - 1993

UNIONIZATION/ PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> Predominantly non-unionized.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> The estimated total employment level is 40,000 with appliance shops employing approximately 24,000 service technicians and electronic service shops with approximately 16,000 service technicians. Predominantly small, often family-owned business, with an owner/operator. Some service technicians "moonlight", running part-time businesses out of their homes.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> There is provincial employment jurisdiction. Recruitment tends to be very informal. Wages are lower than other service repair trades such as commercial repair (e.g. photocopiers), and there is some piecework. No human resource planning (HRP) activity in small shops.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> Colleges provide basic training for electronic and appliance service technicians with programs ranging in length and quality. Some provinces offer an apprenticeship program but the uptake is low. The small business nature of the sector may be a barrier to employer participation in apprenticeship. Also, mid-career entry may be a barrier from the workers perspective. Alberta is the only province where trade qualifications (certification) is mandatory. Some task specific certification is required (e.g. gas hookup, now CFCs). Continuous updating is typically provided by manufacturers which sponsor 1-2 day seminars, generally focused on new product technologies. The "trainers" may not have strong instructional skills. There are few community college programs offered for skills updating. The cost of current equipment is a problem for colleges. College instructors also need access to current technologies to keep up-to-date. Service technicians spend a significant amount of time "self-learning". Job aids, including manuals, are important yet often very costly for a small shop to keep a full set.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> Despite the perception of very differentiated occupations, technology is tending to blur distinctions. Even technology in appliance and electronic consumer products are becoming more similar (pervasive electronics). Need to update technical skills in different products/technologies, and there is also need for small business skills, including customer service. There is need for retraining/upgrading to keep pace with new products and technology which is a particular problem with electronics more so than with appliances.

NOTE: Data and information presented above were current at the time of the study.

<p>KEY HR ISSUES (continued)</p>	<ul style="list-style-type: none"> ▶ There is a forecasted shortage in appliance technicians, however it is difficult to improve the image without improving compensation potential. ▶ The current training modes likely to over-supply electronics, and under-supply appliances. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ Potential recruits perceive other similar industries to be better paying. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ There are some good and many poor entry-level training programs. The biggest problem is the inconsistent curriculum between programs so employers do not know what a certificate really means. ▶ Need to improve continuous learning. Manufactured-sponsored upgrading helps but does not provide enough training to technicians when they need it , and it cannot address the basics of the underlying technology. ▶ There is concern over CFCs; many provincial governments require service technicians to be trained and/or certified in the removal of CFCs. ▶ Poor business prospects for owner/operators limits the attractiveness of the trade because many enter technological occupations with plan of becoming owners. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ The industry will experience significant attrition over the next 5 - 10 years due to age levels, and this will help ease the downward adjustment in electronics. <p>Other</p> <ul style="list-style-type: none"> ▶ There is minimal progress on employment equity to date. ▶ Statistics Canada data does not reflect the boundaries of the sector, so there is a need for improved and on-going human resource (HR) data/forecasting. ▶ Government human resource (HR) supports/infrastructure is not a major issue.
<p>RECOMMENDED PRIORITIES FOR ACTION</p>	<ul style="list-style-type: none"> ▶ Investigate the skills trainers require to deliver effective training. ▶ Improve existing and develop new training opportunities for trainers to keep their skills current. ▶ Develop an ongoing skills training program for service technicians currently in the industry that covers all skill areas. ▶ Establish communication links between industry stakeholders. ▶ Develop a national profile (database) of service shops and service technicians. ▶ Assess the supply and demand projections of service technicians in the industry, province by province. ▶ Develop a recruitment program aimed at encouraging new entrants to the industry. ▶ Conduct a salary survey of service technicians. ▶ Investigate the most effective means of delivering entry-level training. ▶ Accredited educational institutions that deliver entry-level training to ensure consistency and quality.

NOTE: Data and information presented above were current at the time of the study.

CONSUMER ELECTRONIC AND APPLIANCE SERVICE INDUSTRY - 1993

RECOMMENDED PRIORITIES FOR ACTION (continued)	<ul style="list-style-type: none"> ▶ Develop national occupational standards. ▶ Expand the scope of the industry to reflect all commercial products currently serviced by the industry. ▶ Investigate mandatory certification and/or licensing of all service technicians. ▶ Assist in the creation of Provincial and Regional trade associations.
TABLE OF CONTENTS	<ol style="list-style-type: none"> 1. <u>Background</u> <ol style="list-style-type: none"> 1.1 What the Study was Designed to Accomplish 1.2 The Study Process 1.3 An Overview of the Report 2. <u>A Profile of the Consumer Service Industry</u> <ol style="list-style-type: none"> 2.1 Industry Structure 2.2 Types of Service Shops 2.3 Employment Profile 2.4 Other Players Also Have a Stake in the Industry 2.5 Conclusions 3. <u>Change Drivers and Implications</u> <ol style="list-style-type: none"> 3.1 Change Drivers 3.2 Implications of These Pressures on Employment 3.3 Conclusions 4. <u>Human Resource Development</u> <ol style="list-style-type: none"> 4.1 Skill Requirements of Technicians 4.2 Entry-Level Training 4.3 Ongoing Skills Development 4.4 Training for Service Trainers 4.5 National Occupational Standards 4.6 Conclusions 5. <u>Future Human Resource Directions</u> <ol style="list-style-type: none"> 5.1 Meeting the Challenges 5.2 The Creation of a Consumer Electronic and Appliance Sector Council <p>Appendices</p> <ol style="list-style-type: none"> A. List of Steering Committee Members B. Survey Methodology C. Breakdown of Interviews, Focus Groups and Site Visits D. Electronic and Appliance Service Associations
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NOTE: Data and information presented above were current at the time of the study.

LIST OF TABLES/ GRAPHS (continued)	<p>3.4 Service Market Potential for Electronic Products</p> <p>3.5 Percentage of Service Shops Repairing Commercial Products</p> <p>3.6 Change in the Number of Electronic Service Technicians Employed Since 1991</p> <p>4.1 Skill Requirements - Appliance and Electronic Service Industry</p> <p>4.2 Alberta Apprenticeship Annual Enrollment</p> <p>4.3 Owners/Managers - Number of Days of Training</p> <p>4.4 Service Technicians - Number of Days of Training</p> <p>4.5 Use of Self-Studying Training Aids</p> <p>Tables</p> <p>1.1 Study Methodology</p> <p>2.1 ABC Appliance Servicing Financial Statement</p> <p>4.1 Provincial Apprenticeship Programs</p> <p>4.2 Electronics Servicing Sample Curriculum Overview</p> <p>4.3 Appliance Servicing Sample Curriculum Overview</p>
MEMBERS OF THE STEERING COMMITTEE	<p>Employers</p> <p>The Brick Warehouse Corporation</p> <p>Centre d'électronique PRAL</p> <p>Commission scolaire Ste-Croix</p> <p>Corporation des électroniciens du Québec</p> <p>Division of Genisys International Group Inc.</p> <p>Matsushita Electric of Canada Limited</p> <p>Mitsubishi Electric Sales Canada Inc.</p> <p>Sharp Electronics of Canada Ltd.</p> <p>Sears Canada Inc.</p> <p>Sony of Canada Ltd.</p> <p>Thermofilm Corporation</p> <p>Unions/Professional Associations</p> <p>Communications and Electrical Workers of Canada</p> <p>Industry Associations and Councils</p> <p>Appliance Service Association of Canada</p> <p>Canadian Electronic and Appliance Service Association</p> <p>Electronic Services Dealers Association of Alberta</p> <p>Manitoba Association of Service Technicians and Electronic Repair Shops (MASTERS)</p> <p>Government</p> <p>Alberta Career Development and Employment</p> <p>Human Resource Development Canada</p> <p>Ministry of Skills Development, Ontario</p> <p>New Brunswick Advanced Education and Training</p> <p>Quebec Ministry of Education</p>

NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1994 HUMAN RESOURCES STUDY OF THE CONSULTING ENGINEERING INDUSTRY

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ This 127 page detailed report, entitled "<i>From Potential to Prosperity: Human Resources in the Canadian Consulting Engineering Industry</i>", was published in 1994. ▶ The research was undertaken by Pacific Leadership Inc., KPMG Management Consulting Inc. and Revay and Associates.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ To document the nature of human resource activity, problems and concerns in the industry, and to facilitate dialogue between the industry's stakeholders on priorities and actions for the future. ▶ To present a consensus view on all human resource considerations, with emphasis on HR training, areas where problems may exist, and the future course of the industry.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ Project had a dual focus of diagnosis/analysis of the human resource issues and challenges facing the consulting engineering industry. ▶ Interviews, case studies, focus groups and literature searches were conducted in order to facilitate this dual focus. ▶ In addition, a Delphi survey, regional workshops and roundtables were completed in an attempt to facilitate discussion, a sharing of information, and a consensus. ▶ Responses were received from 90 individuals in round one of the Delphi and 88 in round two. ▶ Interviews were conducted with 65 Canadian firms with more detailed discussion being conducted with 20 additional firms in Canada, the United States, Britain and Holland to form the basis of case studies. ▶ A total of 168 employees, educators and students took part in focus groups across the country.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ Continuing restructuring and re-definition due to greater competition and lower profitability, decreased public sector demand, greater financial risk, and globalization. ▶ International markets and linkages between Canadian and international firms are assuming increasing importance. ▶ As many projects are now turnkey and total business solutions (design-build, EPC (engineer-procure-construct) and BOOT (build-own-operate-transfer), consulting engineers need to expand their practices and/or strike strategic alliances in order to maintain revenues. The industry cannot achieve a turnaround in its profitability unless it undertakes sustained action to improve its image, and demonstrates the value it can produce on behalf of clients. ▶ Close, long-term relationships with clients are critical, in order to maintain and build a strong revenue base.

NOTE: Data and information presented above were current at the time of the study.

CHANGE DRIVERS (CONTINUED)	<p>Regulatory</p> <ul style="list-style-type: none"> ▶ Eliminating current inter-provincial trade barriers would lead to rationalization of firms, and lower operating costs. ▶ The Canadian consulting engineering industry has a competitive advantage in complying with increasingly stringent environmental regulations. ▶ There is a widespread perception that the absence of a coordinated government approach limits international performance. <p>Technological</p> <ul style="list-style-type: none"> ▶ Continuing enhancement of CAD technology and work methods allowing for higher productivity has contributed to the increased proportion of engineers to non-engineers in the workforce. This factor has also blurred the boundary between the work of engineers and technologists/designers. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ Not mentioned.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ The industry consists of firms and sole practitioners engaged in the practice of professional engineering. It provides services related to technology-intensive projects and to other commissions requiring engineering, managerial or other types of professional expertise. ▶ The approximately 3,500 firms in Canada have annual billings of about \$6 billion. Revenues have been concentrated mainly in Ont. and Que. (67%), with B.C. and Alta. (28%) also playing a large role. ▶ This industry is linked to many other sectors through the skills it provides for the rationalization, design and management of facilities expansion and technology development. It also has a direct impact on manufacturing and supply industries. ▶ In 1994, Canadian firms had about 5% of the international market (4th highest globally). ▶ Success factors: strengthen linkages with education, continual innovation of services and internal practices, make more effective use of sources of financing, develop networks and alliances to provide greater access to skills and undertake HR planning and differentiate services by promoting and demonstrating value-for-money solution/benefits. ▶ Firms need to develop and sustain a corporate culture that will enable them to respond to changes in the business environment, meet customers' changing needs, and build successful business relationships.
UNIONIZATION/ PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ There are professional associations representing engineers, such as the Association of Consulting Engineers, the Canadian Council of Professional Engineers, and the Canadian Council of Technicians and Technologists.

NOTE: Data and information presented above were current at the time of the study.

EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ The industry employs approximately 50,000 people. Employment has declined significantly in the last five years, but has stabilized. ▶ Many firms are re-structuring their workforce to have a core full-time staff, increase their flexibility by contracting out to match staff requirements to work flows and employing individuals using casual or on-call arrangements. This practice is not as prevalent in the Atlantic provinces, but is significant in the west. ▶ There is a widespread acceptance by employees that job security is diminishing, and no job is permanent because of the recent downsizing, and new focus on alternative work arrangements. ▶ Employee turnover is low, due to the lack of suitable alternatives and maturing of the workforce (older, more experienced employees are less likely to move on). ▶ The workforce is mature mainly due to downsizing (resulting in younger, less experienced employees being let go, coupled with little hiring of new graduates), and market changes resulting in increased emphasis on management experience and/or highly specialized process knowledge. ▶ Employees are becoming more highly educated, with many in the workforce holding advanced degrees. ▶ There has been little progress with respect to female presence and/or roles in the industry (e.g. few women in senior decision-making positions, very few senior engineers are female), although there has been an increased proportion of females in the industry.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ The continuing conflict between the need to improve profitability while investing in continuing education and training and HR management has resulted in the latter needs being postponed or disregarded. ▶ HR approaches such as performance management, employee assistance programs, team building, total quality management, and self-directed work teams which are common in other sectors, are considered radical or impractical in this industry. ▶ Compensation in the consulting engineering industry is much lower than consulting engineers in other countries, and lower compared to other Canadian engineering sectors. ▶ There is a wide variation in the industry about perceptions of HR issues and priorities. These differences are mainly due to the varying regions, markets, and industry sectors in which consulting engineers work. ▶ Most of the change in the industry is ad-hoc, and most companies are focused on the short-term. As a result, such far-sighted investments in HR issues such as training and development are often ignored.

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TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ Most participants gain the basic skills from post-secondary education programs. However, there is little agreement within the industry about how the advanced skills can be (or should be) obtained, although most agree that it should be through a combination of on-the-job experience and further formal education/training. ▶ Currently, the industry does not do an adequate job of providing professional development. Most training and upgrading is ad hoc, and many employees feel that much of the experience they have gained has been through chance in on-the-job situations. ▶ Many students and educators have identified a definite lack of education/training opportunities in the field, and participants find they have to take primary responsibility to obtain further development opportunities. ▶ Industry involvement and influence on curriculum must be re-examined, as existing programs do not attend to essential needs and lack flexibility.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ There is a need for firms to promote the development of new and enhanced skills among employees, especially interpersonal skills that are essential to building long-term relationships, managing and participating in teams, and creating more participative, non-traditional organizational forms. ▶ The organizational structure of companies in this industry is still quite hierarchical, with top-down decision making, place little priority on HR issues and, for the most part, lacks a clearly articulated statement of mission, vision and values. However, there is a significant minority of firms which recognize their need to undergo organizational changes, although many employees are skeptical of management's commitment to change. ▶ It was identified that management requires new skills, knowledge and attitudes such as: they cannot be risk averse, they must delegate more business and decision-making responsibility, they require better computer skills and they need to gain better "people" skills. ▶ Management succession perpetuates the breed and is a significant problem area for many firms. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ When hiring, most firms are actively seeking "soft" skills in candidates, in addition to technical knowledge, which include: ability to write, make presentations, conflict resolution and listening skills. ▶ Much of the recruiting is done through networking and other informal methods (e.g. employee referral). ▶ The image of staffing practices in this industry is poor. Employee groups used the terms "hire and fire", "employees are disposable," and "employees are treated as a commodity" to illustrate management's perceptions. ▶ There has been little entry level recruitment. Most of the new graduates being recruited at this level are people with either advanced degrees, co-op or related practical experience, and/or highly developed computer skills. However, employers prefer to hire candidates with at least 2-3 years of experience.

NOTE: Data and information presented above were current at the time of the study.

KEY HR ISSUES (continued)	<ul style="list-style-type: none"> ▶ There is a sense of foreboding about future staff shortages due to the low levels of hiring of new graduates, as well as the many young employees who were laid off during the recent recession. ▶ The basic skills that have been identified as being necessary in this field are technical expertise, communication skills, “people skills”, and computer literacy. To be successful, participants in the industry need general and project management skills, sales and marketing skills, organizational skills, finance and accounting skills, and an understanding of the business and legal issues concerning companies. ▶ Qualification pathways are inflexible, unclear and territorial. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ Most participants agree that continuing education, through linkages between educational institutions, industry and professional associations, must be provided to ensure advanced skills and expertise are obtained. ▶ There is a need for more “real world” practical and co-op experiences. ▶ The “soft” skills are seen to be essential for career evolution and development, but are under-emphasized by most companies. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ There has been an increased emphasis on incentives and performance-linked pay in an attempt to compensate for the lower-than-average remuneration. ▶ Employee ownership has also been used to attempt to compensate for lower pay, but has been viewed with skepticism on the part of employees, since there is a perception that ownership does not equate to influence. This ties into the problems of ownership succession. <p>Other</p> <ul style="list-style-type: none"> ▶ Existing pathways to the top are not preparing people for the challenges; recruiting “ready-made” employees is preferred to training existing staff.
RECOMMENDED PRIORITIES FOR ACTION	<ul style="list-style-type: none"> ▶ Continue the dialogue between stakeholders and develop an industry-wide, collaborative approach to the issues and challenges. ▶ Generate an industry-wide commitment to HR development in order for the industry to remain competitive and adapt to the rapidly changing demands of the global market. ▶ Forge more effective linkages between industry and educational institutions, such as expansion of co-op programs, or designing new continuing education programs. ▶ There is a need to examine more closely the need for national industry standards, requirements for continuing education and a related system of professional credits. ▶ Develop “soft skills” training tailored specifically to the industry’s needs. ▶ Develop leadership and management development programs tailored to the industry. ▶ Develop programs to meet the HR needs of small and medium-sized firms. ▶ Foster and promote a more positive approach to contract and casual employment

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RECOMMENDED PRIORITIES FOR ACTION (continued)	<ul style="list-style-type: none"> ▶ Develop and adopt alternative compensation models to support strategic goals and to enhance overall compensation competitiveness in the industry. ▶ Educate managers and employees on ownership models and ownership succession. ▶ Action to enhance international competitiveness, such as providing "how to" workshops or seminars on international issues, focused directly on the consulting engineering sector.
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NOTE: Data and information presented above were current at the time of the study.

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NOTE: Data and information presented above were current at the time of the study.

MEMBERS OF THE STEERING COMMITTEE	Employers Acres International Limited ADI Limited Reid Crowther & Partners Ltd. SNC Lavalin Inc. Wardrop Engineering Unions/Professional Associations Association of Consulting Engineers Canadian Council of Professional Engineers Canadian Council of Technicians and Technologists Educators Camosun College Engineering Institute of Canada University of British Columbia Government Industry Canada Human Resources Development Canada
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NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE ANALYSIS OF TRAINING DATA FROM THE 1993 **CULTURAL LABOUR FORCE SURVEY** “PERSPECTIVES ON TRAINING IN THE CULTURAL SECTOR”

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ In 1994, HRDC sponsored a large-scale sample survey of the cultural labour force that was carried out by Statistics Canada. ▶ The objective of the survey was to obtain more relevant and comprehensive labour force data than was available from either the Census of the Labour Force Survey. ▶ The data was also designed to complement the more qualitative information being collected for the sector study of the cultural sector being undertaken at that same time. ▶ Published data are available in three formats from Statistics Canada: the September 1995 issue of Culture Counts, the Autumn edition of Focus on Culture, and a public-use microdata tape. A separate analysis of the data from the survey pertaining to training issues is the subject of the report “<i>Perspectives on Training in the Cultural Sector</i>”.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ As a result of the sector study that was undertaken in 1995, the Cultural Human Resource Council (CHRC) was formed to co-ordinate the development and implementation of a HR strategy for the cultural sector. ▶ A key component of such a strategy is responding to needs identified in the sector study for improved training and human resource development opportunities for the sector. ▶ The <i>Perspectives on Training</i> project sought to draw out from the Cultural Labour Force Survey, data that would inform the CHRC in these areas.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ The survey used a sample design methodology drawing from the membership lists of over 1000 cultural organizations and unions. In those areas of the sector where such membership is not prevalent, employee lists were obtained from relevant institutions and businesses. ▶ When the survey was conducted in 1994, over 8,000 respondents were interviewed by telephone. ▶ This sample size was deemed to represent about 150,000 cultural workers in artistic, management, professional, and technical occupations across 11 selected sub-sectors.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ Please refer to the summaries produced for each of the four sub-sector studies undertaken (1. Audio Visual and Live Performing Arts, 2. Literary Arts and Publishing, 3. Music and Sound Recording, 4. Visual Arts and Crafts). <p>Globalization</p> <ul style="list-style-type: none"> ▶ idem <p>Regulatory</p> <ul style="list-style-type: none"> ▶ idem

NOTE : Data and information presented above were current at the time of the study.

CHANGE DRIVERS (continued)	<p>Technological</p> <ul style="list-style-type: none"> 65% of the cultural workforce reported the technological change had had an impact on their work. Technological change affected some cultural occupations more than others: directors/producers, designers, managers, curators, and librarians were most affected. <p>Social/Demographic</p> <ul style="list-style-type: none"> Please refer to the summaries produced for each of the four sub-sector studies undertaken (1. Audio Visual and Live Performing Arts, 2. Literary Arts and Publishing, 3. Music and Sound Recording, 4. Visual Arts and Crafts).
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> Please refer to the summaries produced for each of the four sub-sector studies undertaken (1. Audio Visual and Live Performing Arts, 2. Literary Arts and Publishing, 3. Music and Sound Recording, 4. Visual Arts and Crafts).
UNIONIZATION / PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> Please refer to the summaries produced for each of the four sub-sector studies undertaken (1. Audio Visual and Live Performing Arts, 2. Literary Arts and Publishing, 3. Music and Sound Recording, 4. Visual Arts and Crafts).
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> 55% of the cultural workforce is in 'non-standard' jobs, compared to 22% of the general labour force. 30% of the cultural workforce is <i>self-employed</i>, while a further 25% does some work on a self-employed basis; such employment is highest in the creative fields. The cultural workforce is more highly educated than the overall labour force: 45% of cultural workers have post-secondary degrees compared to 17% of the general labour force. For further information on employment patterns, please refer to the summaries produced for each of the four sub-sector studies undertaken (1. Audio Visual and Live Performing Arts, 2. Literary Arts and Publishing, 3. Music and Sound Recording, 4. Visual Arts and Crafts).
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> Please refer to the summaries produced for each of the four sub-sector studies undertaken (1. Audio Visual and Live Performing Arts, 2. Literary Arts and Publishing, 3. Music and Sound Recording, 4. Visual Arts and Crafts).
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> In the year the survey was conducted, 40% of respondents reported having taken some form of additional training or development. Those who took such training were, on average, younger and more educated than those who did not take additional training. Training was more prevalent among those in managerial and professional occupations, and in most cases was initiated by the employer. 12% of the cultural workforce reported unmet training needs. The most frequently cited sources of "influential training" were: on-the-job training, followed by professional development and then college/university programs. Dissatisfaction with training undertaken was high, particularly among actors, writers, technicians, painters, craftspeople and musicians. Two-thirds of the cultural workforce expressed no need for additional training or development; while about 30% indicated that there was training they would have liked to have taken it but could not.

NOTE : Data and information presented above were current at the time of the study.

TRAINING AND DEVELOPMENT PATTERNS (continued)	<ul style="list-style-type: none"> ▶ The main barriers include time and money; only 4% claimed availability of courses as a reason. ▶ The survey identified gaps in technology training responses, especially for arts/culture managers, directors/producers, writers, curators, musicians, and, to a lesser extent, for designers and clerical and support staff.
KEY HR ISSUES	<ul style="list-style-type: none"> ▶ 25% of the cultural workforce reported feeling overqualified for their current job. ▶ 40% of the cultural workforce believed that their current job was unrelated to their education. ▶ 29% of the cultural workforce felt that their work had been greatly affected by computers (two-thirds of these respondents reported having received training for this). ▶ Strategic management of the sector, in the face of technological change, globalization, and shifts in funding patterns is a major issue for the cultural workforce. ▶ Soft skills are becoming increasingly important and include basic business skills related to marketing, regulations, contracting, and safety, as well as inter-personal communications skills.
RECOMMENDED PRIORITIES FOR ACTION	<ul style="list-style-type: none"> ▶ The survey results suggest that the Cultural Human Resources Council needs to raise awareness of the importance of training and career management (especially among the two-thirds who perceive no additional development needs). ▶ Training and career management for the self-employed part of the cultural workforce is a major issue. ▶ There is a need to address the apparent gaps in training in new technology. ▶ Please refer to the summaries produced for each of the four sub-sector studies undertaken for additional information on recommendations by sub-sector (1. Audio Visual and Live Performing Arts, 2. Literary Arts and Publishing, 3. Music and Sound Recording, 4. Visual Arts and Crafts).
TABLE OF CONTENTS	<ol style="list-style-type: none"> 1. A 5-page executive summary entitled "<i>Perspectives on Training in the Cultural Sector: Implications Drawn from the Cultural Labour Force Survey</i>" is available from HRDC. <ul style="list-style-type: none"> ▶ The detailed information on training data from the survey is also available as an electronic Window's presentation, and as such, no table of contents is available.
LIST OF TABLES/ GRAPHS	<p>The electronic presentation contains the following tables:</p> <ul style="list-style-type: none"> ▶ Education Levels of the Cultural Workforce, Compared to the General Labour Force ▶ Geographic Location of the Cultural Labour Force ▶ Self-Employment by Occupation ▶ Data Availability by Issue ▶ Past Education and Training ▶ Frequency of Training Taken ▶ Types of Training with the Most Impact ▶ Training Needs by Occupation ▶ Training Desired by Occupation ▶ Lack of Available Courses by Occupation ▶ Barriers to Training by Occupation

NOTE : Data and information presented above were current at the time of the study.

LIST OF TABLES/ GRAPHS (continued)	<ul style="list-style-type: none"> ▸ Impacts of Technology by Occupation ▸ Training Received as a Result of Technology Impacts, by Occupation
MEMBERS OF THE STEERING COMMITTEE	Cultural Human Resources Council HRDC Statistics Canada

NOTE : *Data and information presented above were current at the time of the study.*

SUMMARY OF THE 1996 HUMAN RESOURCES STUDY OF THE DAIRY PROCESSING INDUSTRY

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ Commencing in July 1995, the human resource study of the dairy processing industry was officially released in the fall of 1996 at the National Dairy Council's Annual General Meeting. Price Waterhouse Management Consultants undertook the research work which culminated into a 76 page report entitled: <i>Canadian Dairy Processing at the Crossroads: A human resource study</i>.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Recent trade pressures from the U.S. and other foreign competitors, ongoing industry rationalization, and continued reduction in employment levels, have contributed to major cultural and structural shifts in the dairy processing industry. ▶ Recognizing the threat to the industry's continued viability, representatives from business, labour, the education community, and government committed to direct a Canada-wide human resource sector study in 1995. ▶ The main objective of the study was to identify the human resource issues, challenges, and directions and to determine the necessary approaches for effective future actions by the industry.
APPROACH AND METHODOLOGY	<p>A number of qualitative and quantitative research methods were employed:</p> <ul style="list-style-type: none"> ▶ extensive review of documentary sources and data bases; ▶ 100 interviews with managers, union leaders, non-unionized and unionized employees, trainers, and other industry experts; ▶ over 15 focus groups with non-unionized and unionized employees, local union representatives, and students; ▶ 18 site visits to small-, medium- and large-sized establishments; ▶ 6 site visits to Canadian educational institutions which offer programs and/or courses to the industry; and, ▶ 4 case studies of international dairy processors: <ul style="list-style-type: none"> - Kraft Mont-Royal; - Avonmore Foods (Ireland); - Nestlé (Switzerland, Canada); and, - Northern Foods (United Kingdom).
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ Canadian dairy products will gradually shift from dairy commodities to new value-added products which use milk ingredients/components for food and non-food applications such as: <ul style="list-style-type: none"> - diet products; - functional foods; - nutraceuticals; and, - products for the pharmaceutical industries.

NOTE: Data and information presented above were current at the time of the study.

CHANGE DRIVERS (continued)	<ul style="list-style-type: none"> ▶ Milk prices will be more competitive and more milk will be available for exports. ▶ There will be freer circulation of dairy products on domestic markets and between Canada and its trading partners. ▶ Average per capita fluid milk consumption will stabilize at current levels. ▶ Global dairy firms (eg., Unilever, Danone, and Kraft) will have a stronger presence on the Canadian market. ▶ Continued industry rationalization will lead to more plant closures and/or mergers. ▶ Dairy processors will need to implement new strategies such as: developing economies of scale; strategic alliances; niche markets; and, new value-added products to adapt and compete in the new environment. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ Pressure to advance the tariff reduction timetables will continue. ▶ There will be a gradual adaptation of Canada's supply management system. <p>Technological</p> <ul style="list-style-type: none"> ▶ The emergence and implementation of new technologies will continue, including: new milk processing procedures (eg., fractionation); biotechnologies; and, automated and computer-integrated procedures. ▶ HACCP will become an industry-wide standard and there will be a greater recognition of ISO certification. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ The total employment level will suffer a further reduction of 10% - 15% over the next 3 to 5 years. However, new career opportunities for those employees remaining in the industry will be created particularly for managers, specialists and technicians. There will also be a need for higher and more advanced skills. Employees remaining in the industry will need to upgrade their current job skills. ▶ Recruitment for key positions in developing new products, adapting processes, and marketing will be undertaken external to most dairy plants. ▶ The Canadian dairy processing industry faces three key human resource challenges over the next three and five years: <ul style="list-style-type: none"> - giving greater priority to human resources management; - increasing collaboration between unions, employees, senior management; and, - developing a continuous learning culture in firms.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ In 1994, the Canadian dairy processing industry accounted for \$7.42 billion in total shipments reaching maturity in this year. However, Canada is not considered a major player on the international scene, accounting for only 0.5% of total world exports. In 1994, the industry accounted for only 1.4% of the total global production of 518 million tonnes (Canada accounted for 7.095 million tonnes).

NOTE: Data and information presented above were current at the time of the study.

CHARACTERISTICS OF THE INDUSTRY (continued)	<ul style="list-style-type: none"> ▶ Exports of dairy products have been in decline since 1990 except for 1995. In 1995, exports increased by 31% (value of \$268 million) largely due to the international situation and the Canadian dollar on the exchange markets. ▶ The reverse is true for total imports of dairy products. Between 1987 and 1994, imports increased by 37%. In 1994, total value of imports was \$196 million of which cheese constituted 68%. ▶ Almost 80% of Canadian milk production is concentrated in Ontario and Quebec. Both provinces combined account for more than 75% of Canada's total value of dairy product shipments. ▶ In 1966, Canada boasted a total of 1,308 dairy processing plants. By 1995, this number was considerably reduced to about 300 plants. However in the same time period, the total volume of milk processed rose by 230%. Within the last five years, Canadian milk production remained relatively stable. A majority of dairy processing plants are located in Quebec and Ontario. In 1995, a total of 158 industrial milk plants and 133 fluid milk plants were in operation across Canada. ▶ In the last decade, the average per capita consumption of milk, butter, cheddar cheese and milk powder in Canada declined, while the consumption of yogourt and ice cream has remained stable, and that of specialty cheeses increased. ▶ In the last fifteen years, implementation of automated and computerized equipment and processes has increased, such as: pasteurization; fractionation of milk components; preparation of recipes; mixing ingredients; cleaning; and, sterilizing. ▶ Some dairy processors have adopted state-of-the-art procedures and technology to develop new dairy products and/or produce dairy ingredients for other food or non-food industries such as nutraceuticals and pharmaceuticals.
UNIONIZATION / PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ About 40% of the industry is unionized with both the Retail Wholesale Canada and Teamsters unions accounting for the majority of these employees. Unionized employees are mainly employed in large companies and work in production, maintenance and distribution occupations. ▶ Labour-management relations have been good but can be characterized as following more traditional approaches. However, there are differences among provinces as Quebec and the Western provinces are more inclined to explore new avenues of labour-management relations. <p>Unions</p> <ul style="list-style-type: none"> - Retail Wholesale Canada (Div. of U.S.W.A.) - Centrale des syndicats démocratiques - United Food and Commercial Workers International Union - Teamsters - Fédération du Commerce inc. (CSN)

NOTE: Data and information presented above were current at the time of the study.

EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ In 1993, about 23,318 workers were employed in the dairy processing industry. This number declined from earlier levels of over 26,000 in 1986 and 31,000 in 1966. Thus, between 1966 and 1986, total employment declined by 16% and a further 13% between 1986 and 1993. ▶ About 33% of employees work as operators/labourers in the dairy plant. A further 19% are employed in administration, and 18% as truck/route drivers. The remaining employees work in other processing, material handling, and maintenance occupations. ▶ Employees are typically male and in their forties. Female employees account for only 24% of the total workforce and are clustered in clerical and administrative occupations. Although slightly increasing over the last decade, the share of female employees is still lower than that in other Canadian industries. ▶ Approximately 70% of the workforce has less than 12 years of education. This illustrates the historically minimal educational requirement for recruitment. Between 20 - 30% of the workforce employed in the dairy processing industry have problems in reading and comprehension and in performing basic mathematical operations. Although the industry has managed to cope with the influx of new and more computerized equipment, this will not continue to be the case as the work environment becomes increasingly technology-oriented. ▶ The average salary earned by employees in the dairy processing industry is about \$36,121. This is higher than any other industry in food processing (except for the beverage industry) and in manufacturing. Fair and good wages partly account for the low turnover typical of this industry. However, a low turnover rate combined with ongoing rationalization and automation has diminished the career opportunities once offered.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ The industry suffers from a lack of communication and understanding between management and employees and also, between senior union heads and local dairy representatives. Most employees have little knowledge or are misinformed about the dairy business environment, strategies, and their respective company's overall intentions and goals. ▶ Few training and human resource development plans exist in dairy processing firms. Most firms that have such plans fail to link their long-term training needs to the overall strategic business plan. This highlights the fact that most dairy plants identify their human resource needs and programmes on a piecemeal basis. In addition, most dairy processors generally consider human resource issues in terms of short-term investment returns, cost reduction and optimizing productivity.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ Most of the training undertaken in the industry is on-the-job. ▶ When new equipment is installed in plants, the suppliers of the equipment initially train supervisors, maintenance workers and operators who are then responsible to train other employees.

NOTE: Data and information presented above were current at the time of the study.

TRAINING AND DEVELOPMENT PATTERNS (continued)	<ul style="list-style-type: none"> ▶ Training needs are generally identified for short-term activities which respond to problems or specific projects and typically focus on: <ul style="list-style-type: none"> - occupational health and safety; - implementation of HACCP; or, - learning how to operate new equipment. ▶ A variety of programs and resources are offered by universities and colleges across Canada, however, few dairy processors use these. Some of the programs available have been criticized for not being readily accessible or providing the broad and more practical knowledge required in the workplace. ▶ Employees are more than ever demanding that a more structured approach to training be adopted in the workplace. One of the main reasons for this is the upgraded academic standings increasingly being required for posted jobs.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ Need for a common view and understanding of the key issues: <ul style="list-style-type: none"> - there is a need for a common understanding and view of the business environment/industry and the directions individual organizations will be taking. This need is on a business and sector-wide basis and is required by senior company and union leaders, local union representatives, managers, and employees. ▶ Need for adjustment measures: <ul style="list-style-type: none"> - support for employees who are unable to keep pace with the changes and the new environment expected in the industry will need to be provided. Adjustment measures such as training, re-assignment, and pre-retirement should be considered. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ Skilled employees: <ul style="list-style-type: none"> - highly skilled employees in certain fields are currently, and will continue to be, in demand over the next three and five years. These include highly qualified managers and specialists with expertise/knowledge in marketing, development, production, export and sales functions. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ Training for foundation (basic) skills: <ul style="list-style-type: none"> - given the estimated 20% to 30% of workers having difficulty in reading and comprehension, writing or performing basic mathematical and numerical calculations, a need for such training is essential. Limited basic skills will prevent industry from adapting to the new changing environment and from progressing. ▶ Training for future skill needs: <ul style="list-style-type: none"> - changing business rules and practices, new value-added markets, implementation of HACCP, and emerging technologies, will require new types of skills from the workforce. Some of the general skills required include: basic computer skills; better knowledge of milk properties and components, business environment, markets and of various products and their processes; teamwork; and, knowledge of quality standards.

NOTE: Data and information presented above were current at the time of the study.

KEY HR ISSUES (continued)	<ul style="list-style-type: none"> ▶ Development of management skills: <ul style="list-style-type: none"> - given the continued and expected industry changes, managers will require the ability to implement and orchestrate the resulting cultural and structural shifts. Managing the insecurity and instability felt in the industry will be a challenge for management. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ Not mentioned. <p>Other</p> <ul style="list-style-type: none"> ▶ Not mentioned.
RECOMMENDED PRIORITIES FOR ACTION	<p>The study proposes the following ten recommendations:</p> <ul style="list-style-type: none"> ▶ Develop and communicate a common industry and human resource vision. ▶ Hold consultations to communicate the importance of human resources, identify main directions and objectives, and define how these can be put into practice. ▶ Adopt a human resources development plan to ensure upgrading of skills. ▶ Assess the current foundation (basic) skill needs and develop measures to address needs. ▶ Develop projects to explore alternate methods of delivering training. ▶ Facilitate practical training in industry workplaces for students. ▶ Develop new approaches to better respond to changes. ▶ Raise awareness, coordinate, and provide technical support in human resources management. ▶ Explore and develop adjustment measures for displaced employees. ▶ Establish a working group to communicate the report's findings and ensure the resolution of the recommendations.
TABLE OF CONTENTS	<p>Summary</p> <ol style="list-style-type: none"> 1. <u>Introduction</u> <ol style="list-style-type: none"> 1.1 Study Context 1.2 Study Objective 1.3 Methodology 1.4 Contents of report 2. <u>Industry Evolution and Trends</u> <ol style="list-style-type: none"> 2.1 General Situation 2.2 Major trends 2.3 Prospects for the future 2.4 Overall implications for dairy processors and their human resources 2.5 Conclusion 3. <u>Industry Human Resources Profile</u> <ol style="list-style-type: none"> 3.1 Nature and structure of the workforce 3.2 Work environment 3.3 Occupational classifications and impact of changes 3.4 Human resources management practices 3.5 Human resources development practices 3.6 Industry-labour relations

NOTE: Data and information presented above were current at the time of the study.

TABLE OF CONTENTS (continued)	<p>3.7 General climate</p> <p>3.8 Conclusion</p> <p>4. <u>Issues and Challenges</u></p> <p>4.1 Specific issues</p> <p>4.2 Major challenges</p> <p>5. <u>Recommendations</u></p> <p>Appendices</p> <p>A. Steering Committee members</p> <p>B. Persons interviewed, establishments and educational institutions visited, and focus groups conducted during the study</p> <p>C. Education programmes in Canada</p> <p>D. Basic training experience at the Kraft Mont-Royal plant</p> <p>E. International perspective</p> <p>F. Overview of the Canadian Dairy Processing Industry, 1993</p> <p>G. Bibliography</p>
LIST OF TABLES/ GRAPHS	<p>Figures</p> <ol style="list-style-type: none"> 1. Contents of report 2. Overview of the Canadian dairy processing industry in 1993 3. A new vision for the dairy industry 4. The Canadian dairy processing industry gets into globalization 5. Food science programs and pilot dairy plants in Canadian education institutions <p>Tables</p> <ol style="list-style-type: none"> 1. Trends in per capita consumption of dairy products in Canada (1987 - 1994) 2. Trends in farm sales for fluid milk and industrial milk in Canada 1989 - 1994 (million of litres) 3. Provincial shares of national market sharing quota, 1995 (in millions) 4. Total number and distribution of Canadian industrial milk producers by province (1993) 5. Dairy groups with the highest profitability and growth performances based on average financial results for the period 1988 - 1992 6. The top 45 dairy groups worldwide based on 1992 dairy sales (in \$US billions) 7. Top Canadian dairy enterprises or establishments in the agri-dairy industry based on the Financial Post Top 500 of 1995 8. Major shift for Canadian dairy processors 9. Dramatic changes for employees in the Canadian dairy processing industry 10. Training needs identified for each occupation in the Canadian dairy processing industry 11. Graduate dairy programs offered at Canadian educational institutions in 1995-96 12. Food science processing programs offered in Canadian educational institutions in 1995-96 13. Skill upgrading programs offered to industry employees by Canadian educational institutions in 1995 - 96

NOTE: Data and information presented above were current at the time of the study.

LIST OF TABLES/ GRAPHS (continued)	Graphs <ol style="list-style-type: none"> 1. World total milk production in 1994 2. International milk powder exports in 1994 3. International cheese exports in 1994 4. International butter exports in 1994 5. Employed labour force levels in the Canadian dairy processing industry (1981-1993) 6. Gender distributions in dairy processing occupations, 1991 7. Age distribution in the Canadian dairy processing industry, 1986 and 1991 8. Educational levels in occupational groups for the Canadian dairy processing industry, 1991 9. Comparison of average annual salaries in various Canadian food processing sectors, 1990 - 1993 10. Provincial average annual salaries in the Canadian dairy processing industry (1993) 11. Occupational employment in the Canadian dairy processing sector (1991)
MEMBERS OF THE STEERING COMMITTEE	Employers <ul style="list-style-type: none"> Agropur Northumberland Co-operative Dairy Limited Ault Foods Limited Dairyworld Industry Associations and Councils <ul style="list-style-type: none"> National Dairy Council Unions/Professional Associations <ul style="list-style-type: none"> Retail Wholesale Canada (Div. of U.S.W.A.) Centrale des syndicats démocratiques United Food and Commercial Workers International Union Teamsters Fédération du Commerce inc. (CSN) Educators <ul style="list-style-type: none"> Université Laval University of Guelph Ministère de l'Agriculture, des pêcheries et de l'Alimentation du Québec (MAPAQ) Government <ul style="list-style-type: none"> Agriculture and Agri-Food Canada Human Resources Development Canada

NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1997 HUMAN RESOURCES STUDY OF THE **DESIGN SECTOR**

Note: The Working Groups have well-founded concerns about the accuracy and completeness of the data for the design sector. Caution is therefore advised when using and analyzing the data included in this table.

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 200 page detailed report, entitled "Shaping Canada's Future By Design" was released in February 1997. There is also a bilingual summary report available. ▶ The research was undertaken by: Price Waterhouse; Diefenbach, Elkins and Vandenburg; Sémio Design; Le Groupe DBSF; Association of Canadian Industrial Designers. ▶ For this study, the Design sector includes 5 subsectors: architecture; interior design; landscape architecture; communications design; and, industrial design.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ The National Design Alliance (NDA), a cross-Canada consortium of design promotion organizations and national design professional associations, approached HRDC to sponsor a HR study. ▶ The study was initiated for two main reasons: <ol style="list-style-type: none"> 1) to provide the five design disciplines with the necessary environmental and HR information to develop a sector strategy; 2) to enable, through the sector study's process, these five design disciplines to think and act as a sector as opposed to working in silos.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ The study process aimed to ensure that the findings reflected the views of the people in the sector and built the commitment necessary for further action. It also enabled sector representatives to develop a common understanding of the key human resource issues facing the sector. ▶ The study involved in-depth interviews and discussions with more than 560 designers, buyers of design, technology researchers, educators, students, and representatives of government and of sector organizations both in Canada and abroad. In addition, the study involved a brief survey of graduate business schools in Canada. ▶ The document review included: <ul style="list-style-type: none"> - a search of published documents from a variety of countries, including the U.S., the U.K., Australia, Singapore, Italy, Denmark, France, Belgium, and Switzerland. The search was conducted by the Technical University of Nova Scotia and the University of Quebec in Montreal. The detailed bibliography is available under separate cover through the National Design Alliance and the Royal Architectural Institute of Canada. The information obtained through the literature search was supplemented with reports and documents secured through members of the Working Groups and the Price Waterhouse National Library. - an analysis of selected reports and documents from the literature search, focusing on the socioeconomic environment, technology, design management, and design education and training.

NOTE: Data and information presented above were current at the time of the study.

APPROACH AND METHODOLOGY (continued)	<ul style="list-style-type: none"> ▶ An analysis was conducted of existing occupational, demographic, and educational data, primarily from Statistics Canada and Human Resources Development Canada. ▶ The interviews and group discussions included: <ul style="list-style-type: none"> - about 85 interviews with key representatives, both in Canada and abroad, to discuss the pressures and trends facing the sector, including technological changes. - 15 interviews with buyers of design services to discuss the impact of design in their organizations, the criteria used in their buying decisions, and their relationships with designers. - interviews with about 140 designers and managers in design firms and in-house design departments about the pressures they face and their strategies for dealing with these pressures, marketing and promotion strategies, changes in skill requirements, career opportunities, and professional development. - group discussions and interviews involving 215 students, faculty, and administrators in design educational programs, about links with the design sector, changing educational institutions, links to other faculties, and career opportunities. - about 20 interviews with administrators of professional development and continuing education programs in design about directions in professional development and barriers to professional development. ▶ A survey was undertaken of Canadian graduate business schools on the extent to which design management is covered in their curricula. ▶ Regional workshops were held involving more than 90 people from design firms and in-house design departments to validate the findings of the research and to obtain their input on strategies to resolve the human resource issues facing the sector. ▶ Six meetings with the Working Groups were held to review progress, to provide direction, to vet ideas, and to develop the direction for a human resource strategy.
CHANGE DRIVERS	Economic/Market <ul style="list-style-type: none"> ▶ Growth in the design sector has been hampered by a slump in many traditional markets, and by greater U.S. competition post-NAFTA. ▶ Canadian designers are finding new markets (e.g. opportunities created by changing demographics, environmental concerns, etc.) ▶ Small design firms may have difficulty surviving the pressures of the current business environment. ▶ There is increasing cross-border and global competition. ▶ Traditional markets are in decline. ▶ There are increasing client expectations for a wider range of services. ▶ The increasing capital cost facing design firms may pressure smaller firms to merge or form alliances.

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CHANGE DRIVERS (continued)	<ul style="list-style-type: none"> ▶ Changes in corporate structures are having a major impact on in-house design departments. Decentralizing is leading to a massive outsourcing of design work by large corporations. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ Specific policies related to the Canadian design sector are lacking. ▶ The intellectual assets of the design sector are hard to protect under current intellectual property legislation. ▶ Little funding for design-related research is available at either the federal or provincial levels. <p>Technological</p> <ul style="list-style-type: none"> ▶ Technology has changed the working environment and is a key facilitator in the emerging business environment. ▶ Managing the implementation of technology and utilizing it to its potential is important. ▶ Staying current with new software and hardware upgrades is becoming increasingly challenging. ▶ There are revolutionary changes in production technologies. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ The design sector faces a more culturally diverse population with different needs. ▶ There is increasing pressure to consider the needs of persons with disabilities and an aging population. ▶ There is increasing pressure to design products or to use materials that are recycled or can be recycled, that are safe and environmentally benign, and that use fewer resources.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ For this project, the Design Sector includes architecture, interior design, landscape architecture, communications design and industrial design. ▶ The design sector is relatively small and new and there is a serious lack of consistent, reliable data on the sector. ▶ Only architectural firms are classified in Statistics Canada's SIC codes; no information is collected at the firm level for any other discipline. However, Stats Can, Industry Canada and the NDA have now developed SIC codes and definitions for each discipline. Which will be incorporated into revised SIC classifications. ▶ Only recently were most design occupations assigned their own occupational classifications. ▶ Design firms range from one-person freelance operations to larger, multi-disciplinary firms. In Canada, a firm with 20 or more people is considered "large". ▶ Firms in the design sector tend to cluster geographically around the industries that drive demand.

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UNIONIZATION/ PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ National Professional Associations: (Most have provincial/regional chapters) <ul style="list-style-type: none"> - The National Design Alliance - The Royal Architectural Institute of Canada - The Association of Canadian Industrial Designers - The Canadian Society of Landscape Architects - Society of Graphic Designers of Canada - Interior Designers of Canada - Association des designers industriels du Québec - Société des designers graphiques du Québec ▶ Since membership in associations is not mandatory for some disciplines, not all practicing designers belong to professional associations.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ Design occupations make up a relatively small proportion of the Canadian workforce (approximately 57,000 total employment in 1991 comprised of: communications design, 50%; built environment, 44%; and, industrial design, 6%). ▶ Most design firms are homogeneous in terms of culture, and the majority of designers are male (62%) although there is an increasing female presence in the sector (38%). ▶ Designers are relatively young in comparison with the Canadian workforce. About 65% of all designers are between the ages of 25 and 44 with the largest proportion between 25 and 34. ▶ Designers earn almost one-third less than their counterparts either in business services to management or in engineering, math and natural sciences occupations. ▶ Design services are provided either through consultants or in-house design departments. In Canada, most designers work in design firms either as owner or freelance. ▶ Design firms have yet to develop an effective approach to career progression. Formal job titles are rarely used and documented job descriptions are even less common.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Design firms are increasingly exploring alternatives to the traditional full-time, permanent relationship. There is a growth in temporary employment agencies. Increasingly, freelance or contract designers are hired project by project according to specific skills and expertise. ▶ The sector study has provided the sector with a tremendous opportunity to work in a multi-disciplinary fashion and to organize itself. ▶ A National Committee recently formed (Alliance for Canadian Design) will act in 1997 to: <ul style="list-style-type: none"> - develop and implement an effective marketing strategy for the study report and its contents; - mobilize sector organizations as partners in developing a sector-wide implementation strategy that encompasses five subsector strategies;

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HR MANAGEMENT PRACTICES (continued)	<ul style="list-style-type: none"> - complete an inventory of existing resources (program and financial) within the sector to be used to conduct a detailed assessment of study recommendations; - identify action priorities for implementation in cooperation with sector organizations; - develop a comprehensive sector strategy and business plan which addresses the sector's action priorities, both pan-sectoral and sub-sectoral.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ Designers are generally well educated. Post-secondary education is more likely to have been acquired at community colleges or Cegeps than at universities. Architecture and landscape architecture are the main exceptions for professional degrees and are offered only at universities. ▶ There are many legal requirements for licensing and certification. It varies across disciplines and regions. The most regulated discipline is architecture and the least are communications design and industrial design. The professional framework for the design disciplines must be addressed. ▶ An important aspect of a designer's development is the learning that takes place on the job.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ The professional framework of the design disciplines must be addressed to better support design sector growth and development. ▶ New working relationships are allowing design firms to expand their opportunities (i.e. "virtual" firms). ▶ Links among the design disciplines, and between design and other disciplines, are weak. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ There is a lack of entry-level positions for young designers. ▶ Making the transition from school to work is becoming more challenging for design graduates (access to co-ops, placements and internships is declining). ▶ A growing issue is also that of succession planning. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ Business management skills are critical to the development of design firms and the sector as a whole (e.g. planning, marketing, decision-making skills, human resource management skills). ▶ There is a lack of marketing and exporting expertise to compete internationally. ▶ Most design firms now have a homogeneous culture and should adapt their skill mix to better reflect their client base. ▶ There is a proliferation of post-secondary design programs with little focus on the needs of the marketplace (175 community colleges, Cegeps, art schools and universities offer programs). ▶ There is a strong need to refine and communicate the objectives of design education: <ul style="list-style-type: none"> - Define the prerequisites to practice (design and management skills). - Differentiate the roles of colleges and universities (training of technologists and professionals).

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KEY HR ISSUES (continued)	<ul style="list-style-type: none"> - Expand accreditation systems throughout the sector. - Develop graduate university programs in design. - Increase the extent of multi-disciplinary learning in design programs. <ul style="list-style-type: none"> ▶ The structure of design education impedes communications between design disciplines, and with other professions. ▶ Links between design schools and the design community are weak (e.g. few mechanisms exist to work jointly on issues). ▶ There is little coordination of professional development opportunities across the country (or cross-discipline). ▶ Access to professional development opportunities is a major issue facing designers. ▶ A critical gap in design education is the lack of graduate programs in design. ▶ There are significant gaps in the curricula of many design programs. ▶ Continuous learning is a critical component in the development of a designer. Although a wide range of formal learning opportunities is available, the opportunities often do not match the needs of designers. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ The capacity of design firms to absorb the increasing numbers of experienced designers is questionable. Niche opportunities and new occupations will likely emerge. ▶ The traditional career model is collapsing. <p>Other</p> <ul style="list-style-type: none"> ▶ A lack of consistent, reliable data about the sector hampers research, performance assessment and policy. ▶ Designers must transcend disciplinary boundaries to work in integrated, multi-disciplinary teams. The ability to work as a multi-disciplinary team is paramount to developing relevant design solutions. ▶ The legislation governing partnerships in some provinces may limit formal integration of design firms with firms from related sectors.
RECOMMENDED PRIORITIES FOR ACTION	<p>Listed by objective and recommended actions:</p> <ul style="list-style-type: none"> ▶ Develop and sustain a design-literate market <ul style="list-style-type: none"> ⇒ Orchestrate a national promotion campaign ⇒ Enlist "Champion of Design" spokesperson ▶ Enhance business management skills in designers <ul style="list-style-type: none"> ⇒ Include design management in design school and professional development curricula ▶ Foster design appreciation by business <ul style="list-style-type: none"> ⇒ Include design management in business school and executive development curricula ▶ Cultivate design sensitivity in the upcoming generation <ul style="list-style-type: none"> ⇒ Integrate design education in public school programming ▶ Forge links to facilitate educational change <ul style="list-style-type: none"> ⇒ Strengthen links between design education and practice

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<p>RECOMMENDED PRIORITIES FOR ACTION (continued)</p>	<ul style="list-style-type: none"> ▶ Consolidate the foundation of design education <ul style="list-style-type: none"> ⇒ Refine and communicate the objectives of design education ▶ Promote a multi-disciplinary approach to design-development <ul style="list-style-type: none"> ⇒ Increase the extent of multi-disciplinary learning in design programs ▶ Facilitate the transition of design students into the workforce <ul style="list-style-type: none"> ⇒ Develop/strengthen internship programs for new graduates ▶ Encourage continuous learning and research <ul style="list-style-type: none"> ⇒ Improve access to professional development ⇒ Document and publish the results of design research and achievement ⇒ Develop graduate programs in design ▶ Create a legislative environment that supports design <ul style="list-style-type: none"> ⇒ Develop consistent, relevant and progressive policies and mechanisms to enhance design and development ⇒ Make Canadian design an important criterion of government-sponsored competitions and commissions for the procurement of products and services ▶ Devise a professional regulatory framework for design disciplines <ul style="list-style-type: none"> ⇒ Evaluate the costs and benefits of professional regulation ▶ Increase administrative acumen in design firms <ul style="list-style-type: none"> ⇒ Establish practical business management and strategic planning guidelines for design firms ⇒ Provide professional development in domestic and international marketing for design ⇒ Develop administrative models and management tools for design firms
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NOTE: Data and information presented above were current at the time of the study.

MEMBERS OF THE WORKING GROUPS	<p>DESIGN OF THE BUILT ENVIRONMENT</p> <p>Employers Diefenbach, Elkins and Vandenberg Tielker Sim Harrison Weller Architects Helen Moffett and Associates Ltd. Provencher Roy et Associés Architectes Natale, Scott, Browne Architects Nova Corporation Durante & Partners Spaceworks Design Innova Design Williams Asselin Ackaoui Associés</p> <p>Unions/Professional Associations Canadian Society of Landscape Architects Mercer-Clark Environments R.L. Petersmann Landscape Architects Ltd. Duffus Romans Kundzins Rounsefell Architects Ltd. Interior Designers of Canada</p> <p>Industry Associations and Councils Design British Columbia</p> <p>Educators Ontario Agricultural College University of Manitoba</p> <p>INDUSTRIAL DESIGN</p> <p>Employers Arato Design Bauer Inc. Blue Sky BVL Industrial Design Ltd. Gad Shaanan Industrial Designs Inc. Karo Design Resources Kerr Keller Design Inc. Nortel Technology Virtu Directions in Canadian Design</p> <p>Unions/Professional Associations Association des Designers Industriels du Québec</p> <p>Industry Associations and Councils Institut de Design Montréal</p> <p>Educators Université de Montréal</p> <p>Government Nova Scotia Department of Tourism and Culture</p> <p>COMMUNICATION DESIGN</p> <p>Employers Bouvry Bienvenu Castonguay & Associés Inc. Circle Design Incorporated Don Dickson + Associates Inc. Paul Brunette Spencer Francey Peters</p> <p>Unions/Professional Associations Society of Graphic Designers of Canada</p> <p>Industry Associations and Councils Forum Design International Council of Graphic Design Associations (ICOGRADA)</p> <p>Educators Advancement of Design in Business, Nova Scotia</p>
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NOTE: Data and information presented above were current at the time of the study.

MEMBERS OF THE WORKING GROUPS (continued)	<p>GOVERNMENT REPRESENTATIVES</p> <p>Design Industries Technology Ontario Heritage Canada Ministry of Employment and Investment, B.C. Ministère de l'Industrie, Commerce, Science et Technologie, Québec Service Industries and Capital Projects Branch, Industry Canada Nova Scotia Department of Tourism and Culture Human Resources Development Canada</p> <p>PROJECT TEAM</p> <p>National Design Alliance The Royal Architectural Institute of Canada Human Resources Development Canada</p> <p>OTHER PARTICIPATING NDA MEMBER ORGANIZATIONS</p> <p>Alberta Design Works Design Exchange Liaison Design (Montréal)</p>
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NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1997 Study of EDUCATIONAL TECHNOLOGY IN CANADA'S COMMUNITY COLLEGES AND TECHNICAL INSTITUTES

FOLLOW-UP TO THE 1993 HUMAN RESOURCES STUDY
OF THE CANADIAN COMMUNITY COLLEGES INDUSTRY

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 46 page report entitled "<i>Mobilizing for the Future: Educational Technology in Canada's Community Colleges and Technical Institutes</i>", was published in May, 1997. ▶ The research was undertaken by Price Waterhouse.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Since the 1992/93 comprehensive examination of the human resource challenges facing Canada's colleges and technical institutes, increasingly rapid change has been witnessed in information technology. The focus of this study was on the impact and implications of this change on the Community Colleges and Institutes sector with a focus on mobilizing the sector for the future.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ Research began with interviews of key stakeholders to identify issues that had emerged since the 1992/93 sector study. ▶ A mail survey was distributed to Presidents of Community Colleges and technical institutes across Canada. The sources from which the questionnaire was developed included the 1992 questionnaire form and the ACCC Task Group on Technology. A total of 141 questionnaires were sent out with a response rate of 65%. ▶ Focus groups and interviews were held to validate the survey findings and generate ideas for possible solutions and next steps. Focus groups were held in Vancouver, Halifax, Calgary, Edmonton and Toronto. Interviews were held across Canada with participants from colleges and institutes, as well as their industry partners.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ Continued and accelerating competition for services offered by Community Colleges. ▶ Colleges and technical institutes striving to maintain their competitive advantage through various methods including improving the quality of training through the use of interactive tools, individualized training at the learner's pace, network-based collaboration, focussing on niche areas. Need to establish alliances with private sector trainers. ▶ Reductions in both private and public funding coupled with attempts to offset the costs of technology implies colleges and technical institutes looking to other means of financing including selling services to industry; brokering courses or parts of courses to their institutions; lobbying industry for contributions; operating efficient operations; and maintaining capacity. <p>Technological</p> <ul style="list-style-type: none"> ▶ Educational and communications technology has continued to evolve with a wide spectrum of such technologies in use across the sector, including the Internet and the WWW, e-mail, multi-media technologies, LANs and WANs, and satellite-linked communications networks.

NOTE : Data and information presented above were current at the time of the study.

CHANGE DRIVERS (continued)	<ul style="list-style-type: none"> ▶ Although almost 80% of community colleges and technical institutes offer distance education courses, the mode of delivery varies widely. Although newer modes of delivery grow rapidly, traditional paper-based systems still dominate. ▶ Technology in community colleges and technical institutes is being used in the classroom, for administration, and for distance education. Some programs are supported by government funding and input is provided by innovator groups, not all colleges/technical institutes have the same access to technology and there is a range of levels of adoption of technology among faculty and staff. ▶ Technology is facilitating the blending of student types and needs, structures within the organization, and partnerships. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ Increasing average age of instructors. ▶ Meeting the needs of more mature students remains a challenge. ▶ Growing demand for training within the private and public sectors for employees in need of skills updating due to rapid changes in technology in the workplace and from the rising costs associated with providing the training internally. <p>See <i>Summary of the 1993 Human Resources Study of the Community Colleges Industry</i> for a further discussion of economic/market, regulatory and social/demographic change drivers affecting the community colleges and institutes sector.</p>
CHARACTERISTICS OF THE INDUSTRY	<p>Technology Issues and Implications</p> <ul style="list-style-type: none"> ▶ Most of the reporting campuses are on-line and are running many information technology applications. ▶ Not all colleges/technical institutes have the same access to technology. ▶ There is a range of levels of adoption of technology among faculty and staff. ▶ New media learning technologies (NMLT) have enabled colleges to improve the quality of training through the use of interactive tools, individualized training at the learner's pace, and network-based collaboration. ▶ At the same time, NMLTs have meant an increase in the competition from other colleges and from universities as they expand their program coverage using distance education. ▶ The adoption of technology has facilitated colleges in their differentiation of program offerings and in the blending of service lines. <p>See <i>Summary of the 1993 Human Resources Study of the Community Colleges Industry</i> for a further discussion of the characteristics of the industry.</p>
UNIONIZATION / PROFESSIONAL ASSOCIATIONS	<p>See <i>Summary of the 1993 Human Resources Study of the Community Colleges Industry</i>.</p>
EMPLOYMENT PATTERNS	<p>See <i>Summary of the 1993 Human Resources Study of the Community Colleges Industry</i>.</p>

NOTE : Data and information presented above were current at the time of the study.

HR MANAGEMENT PRACTICES	See <i>Summary of the 1993 Human Resources Study of the Community Colleges Industry</i> .
Training and Development Patterns	See also the <i>Summary of the 1993 Human Resources Study of the Community Colleges Industry</i> . <ul style="list-style-type: none"> Some colleges have begun to deliver professional development sessions using educational technology and encourage professional development through peer development.
KEY HR ISSUES	See also the <i>Summary of the 1993 Human Resources Study of the Community Colleges Industry</i> . Recruitment <ul style="list-style-type: none"> Limited recruitment resulting in the average age of community college is continuing to increase. Training and Development <ul style="list-style-type: none"> Issues include technical updating of faculty; development of instructional skills among faculty; technical training/cross-training of faculty; development of information technology skills. Development of curriculum design skills is a priority. Faculty display a wide diversity of comfort levels in incorporating technology into the curriculum and this appears dependent upon level of training with technologies faculty receive. Lack of motivation to attend professional development and incorporate NMLT into courses is an issue. Other <ul style="list-style-type: none"> New role for instructor as coach, mentor, "main learning professionals".
RECOMMENDED PRIORITIES FOR ACTION	Establishment Level <ul style="list-style-type: none"> Encourage college management to become champions of NMLT projects. Sectoral Level <ul style="list-style-type: none"> Strategic alliances including partnerships among industries and college faculty; technology infrastructures being shared; faculty beginning to collaborate on curricula and professional development. Creation of national discipline-based initiatives. Adoption of best practices in educational technology and instructional techniques. Investigating a funding formula to develop best practices around funding. ACCC to provide forum such as a conference to generate a pool of best practices. Standardize around software. Forum for presidents to learn about the benefits of incorporating NMLT into the curriculum.
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NOTE : Data and information presented above were current at the time of the study.

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MEMBERS OF THE STEERING COMMITTEE	<p>ACCC Technology Task Group</p> <p>HRDC</p>

NOTE : Data and information presented above were current at the time of the study.

SUMMARY OF THE 1993 HUMAN RESOURCES STUDY OF THE ENVIRONMENT INDUSTRY

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 142 page detailed report, entitled "<i>Human Resources in the Environment Industry</i>", was published in 1993. ▶ The research was undertaken by Ernst & Young.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Anticipated shortage of skilled workers to meet industry's growth potential.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ Conducted a review of existing literature and databases, which included: material published in Canada, the U.S. and Europe; contact with government departments; contact with Ernst and Young offices in Europe and the U.S.; Statistics Canada publications, and; data from Employment and Immigration Canada. ▶ Steering Committee members were interviewed to gain an understanding of their concerns about human resource issues in the environment industry. ▶ 172 interviews were conducted with representatives from industry, government and the academic community. ▶ 50 interviews with companies from other industry sectors were completed in order to understand their employment of environmental specialists and how this might affect the total demand for environmental employees. ▶ 16 focus groups were conducted which included employers, employees, and students from colleges, universities and secondary schools. ▶ The research efforts of this project were combined with those of the Special Waste Industry (IAS) Study to conduct a survey of the special waste sector and of universities and colleges, and to tie this projects' efforts with the work of that group.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ Globalization and international competition from foreign companies providing environmental services/products. ▶ Increasing number of mergers of the many small firms in the industry. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ More stringent and more numerous government regulations and legislation regarding environmental protection. <p>Technological</p> <ul style="list-style-type: none"> ▶ Constant change in technological processes and products used in the industry. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ Increased corporate environmental consciousness. ▶ Increasing consumer demand for "green" products and services.

NOTE: Data and information presented above were current at the time of the study.

CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ There exists no formal definition of the industry - Statistics Canada does not publish data on the environmental industry, although it does track the demand for environmental products and services. ▶ Industry consists of two sectors: manufacturing and service sectors. ▶ Total annual revenues between \$6 billion and \$8 billion (of which the service sector generates \$4.5 to \$6 billion). ▶ The market structure, links to suppliers, and source of R&D technological change not mentioned. ▶ There are approximately 3,000 establishments in Canada - most are small (in terms of employees and revenues). ▶ Regional distribution of revenue shows Ontario at 40%, followed by Quebec at 20%, the Prairie provinces at 20%, B.C. at 15% and Atlantic provinces at 5%. ▶ This is a growth industry - many segments of the industry have experienced double-digit annual growth rates, and this strong growth is expected in the future. ▶ Overseas demand opportunities in Europe and the Pacific Rim will contribute to growth, and other demand factors include government regulations and legislation, and public opinion. ▶ Key success factors include: awareness of any legislative changes affecting the environment; and competition on the international market.
UNIONIZATION/ PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ Not mentioned in the study. However, the degree of unionization is understood to be low across the sector. ▶ Large firms like Laidlaw are unionized.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ Total employment level in 1992 was between 60,000 and 70,000 (not included in these figures are environmental specialists working in non-environmental industry sectors). ▶ 60% of workers are in waste handling; almost 20% are in manufacturing, and; close to 20% are in consulting services/pollution assessment. ▶ Mode of employment (FT/PT, contract, shift, etc.) not mentioned in report, however, mostly full-time, direct employment. ▶ Major occupations include: technicians, technologists, equipment/process operators, engineers and scientists. ▶ Compared to the general Canadian labour force, employees in the environmental industry are younger (20 - 45 years), more highly educated, and mostly men (almost 90%). ▶ The industry has seen a general increase in educational requirements as many occupations require a bachelors degree or college diploma. ▶ Employee turnover, basic career path, mobility, and loyalty to occupation not mentioned.

NOTE: Data and information presented above were current at the time of the study.

HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Provincial employment jurisdiction. ▶ Word of mouth is a very common recruiting method, especially for experienced professionals. Entry level positions are filled through unsolicited applications. ▶ Some companies have established linkages with universities and recruit graduates from these programs (e.g. Waterloo University's Groundwater Research program). ▶ Unemployed engineers, engineering technicians and technologists, if retrained, are a potential source of labour for the industry. Traditional sources of labour include universities and colleges with environmental and science programs. ▶ Compensation structure not mentioned. ▶ Downsizing practices not relevant. ▶ Actual HRP activity/capacity not mentioned.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ Sources of basic training/education include: universities, colleges, associations, on-the-job training, contract training, seminars/conferences, internal training programs and equipment suppliers. ▶ Few universities provide the specialized training required for the environment industry. ▶ The constantly changing technical and regulatory environment requires ongoing upgrading and training for managers and employees. ▶ As small companies grow into larger ones, there will be a need for management training as many managers with strong technical backgrounds lack the necessary managerial skills. ▶ Requirements for licensing, certification not mentioned in report, although there is mention of movement towards the development of a national accreditation program for engineering/applied science technicians and technology programs by the Canadian Council of Technicians and Technologists. ▶ About 20% of firms participate in co-op education programs (most of these firms are consulting firms). ▶ Many companies are small and do not have resources for in-house training; on-the-job training by a mentor is common in smaller firms. Outside trainers and internally developed training programs are used mainly by larger firms.

NOTE: Data and information presented above were current at the time of the study.

KEY HR ISSUES**Organizational Design**

- ▶ Changing work designs/work practices, quality improvement not mentioned.
- ▶ Future environmental engineers and scientists will need both a strong general education and a specialization in environmental issues; they will also need training in project management skills, communication skills and a broad understanding of relationships of key players and processes in environmental management.

Recruitment

- ▶ There is presently a shortage of college/university programs providing the specialized technical skills required by the industry.
- ▶ Short-term demand for skills outstrips the supply (e.g. hydrogeologists) because of lag in college/university program graduates available, and also curriculum lag poses problems for the industry.
- ▶ Skills shortages anticipated in specialized areas such as hydrogeologists, environmental specialists, air quality specialists.
- ▶ There is shortage of new graduates and programs specializing in environmental issues and a lack of experienced engineers/scientists with environmental specialization.

Training and Development

- ▶ Constantly changing regulatory and technological environments require on-going retraining for employees and managers, but there are few programs/courses available for skills upgrading.
- ▶ Shortage of funding to universities will exacerbate the shortage of specialized programs.
- ▶ Image of the industry is mixed; steady employment, growth and perception of interesting work are positive images; some sectors may have negative images (e.g. waste handling, facility operation) because the environment industry is perceived by some people/recruits to be part of the problem rather than the solution. Also, many students do not know enough about the industry to form an accurate image.

Reward/Retention

- ▶ Adequacy of career development/counselling supports not mentioned.
- ▶ Change rewards and recognition structure not mentioned.
- ▶ Occupational health and safety not mentioned.
- ▶ Working conditions not mentioned.

Other

- ▶ Improve employment equity not mentioned.
- ▶ Need for downsizing/outplacement not relevant.
- ▶ Adequacy of government HR supports not mentioned.

NOTE: Data and information presented above were current at the time of the study.

<p>RECOMMENDED PRIORITIES FOR ACTION</p>	<ul style="list-style-type: none"> ▶ Develop an organizational structure to address human resource issues, which could be structured as a separate body of industry representatives. ▶ Development of business management courses geared to the environment industry to address management skills for small and medium-sized firms, public relations and communications skills. ▶ Work closely with academic community to develop programs to provide students with the technical skills required by the industry. ▶ Work closely with academic community to develop programs to provide upgrading skills on an on-going basis for existing workforce (to keep up with technological and regulatory changes in the industry). ▶ Develop closer linkages with the academic community to develop educational and training programs required by the industry; companies should be encouraged to use co-op programs and faculty exchanges. ▶ Increase awareness of career opportunities for high school and post-secondary education levels. ▶ Develop more complete picture of industry data.
<p>TABLE OF CONTENTS</p>	<p>Executive Summary</p> <ol style="list-style-type: none"> 1. <u>Overview</u> <ol style="list-style-type: none"> 1.1 Objectives of the Work 1.2 Key Findings and Recommendations 2. <u>Industry Profile</u> <ol style="list-style-type: none"> 2.1 Industry Definition 2.2 Size and Structure 2.3 Environmental Legislation 2.4 Industry Outlook 2.5 Imports and Exports 2.6 International Environmental Protection Markets 2.7 Industry Issues 3. <u>Employment Analysis</u> <ol style="list-style-type: none"> 3.1 Size and Growth 3.2 Employment Structure 3.3 Environmental Employment in Other Industries 3.4 Sources of Employees 3.5 Shortages of Environmental Skills 3.6 Employment Issues 4. <u>Education and Training</u> <ol style="list-style-type: none"> 4.1 The Industry's Education and Training Needs 4.2 Current Education and Training Programs 4.3 Design and Development of Institutional Education and Training Programs 4.4 Other Training Programs 4.5 Issues Related to Environmental Education and Training 5. <u>Summary Issues and Recommendations</u> 6. <u>Conclusion</u>

NOTE: Data and information presented above were current at the time of the study.

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NOTE: Data and information presented above were current at the time of the study.

<p>MEMBERS OF THE STEERING COMMITTEE</p>	<p>Employers ADI Limited Aer-O-Flo Environmental Inc. Concord Environmental Corporation HBT Agra Ltd. Laidlaw Rockcliff Research Management Inc. TriWaste Reduction Services Inc. WSM Waste Systems Management Ltd. Zenon Environmental Laboratories</p> <p>Unions/Professional Associations Association of Professional Engineers of Ontario Canadian Council of Technicians and Technologists</p> <p>Industry Associations and Councils Association of Canadian Community Colleges Canadian Association for Environmental Analytical Laboratories Canadian Environment Industry Association-Ontario Environmental Services Association of Alberta Newfoundland Environmental Industry Association Quebec Association of Water Management SCC Environmental</p> <p>Educators Northern Alberta Institute of Technology Canadian Environmental Consortium Office for Training in the Environment Mohawk College University of Victoria</p> <p>Government Employment and Immigration Canada Environmental Affairs Branch, ISTC Environment Canada</p>
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NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1990 HUMAN RESOURCES STUDY OF THE **FOODSERVICES INDUSTRY**

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 159 page detailed report, entitled "<i>Canadian Foodservices Industry: A Human Resource Study</i>", was published in 1990. ▶ The research was prepared by Ernst & Young.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ A growing industry with concerns about shortages of workers. ▶ A need to improve upon recruitment practices.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ The research for this project was carried out between February and August 1989. ▶ An in-depth study of the many existing reports already published by the provinces was carried out by the Canadian Restaurant and Food Services Association (CRFA) and other associations, as well as by various participants from the industry. The review dealt with different aspects of human resources in the restaurant business. ▶ Twenty target group workshops were held across the country. ▶ Six of these groups involved employers in Toronto, St. John's, Montreal, Ottawa and Calgary. Eight other groups consisted of industry workers from Halifax, Quebec City, Montreal, Toronto, London, Winnipeg and Vancouver (2). Six other target groups met in Calgary (3) and Ottawa (3), and were composed of the managers and employees of service outlets. ▶ Besides these workshops, a large number of interviews were carried out within 70 companies, both large and small. ▶ A large amount of information was gathered from 14 of the largest companies regarding their current and future human resource needs. ▶ A telephone survey was carried out with 496 employees in charge of staffing in small and medium-sized restaurants (399) and institutions (97) with the aim of establishing a more accurate profile of these operations, which employ 80% of industry workers. ▶ Interviews were also conducted with 14 major educational institutions. ▶ Eight case studies were carried out in order to examine certain innovative approaches adopted by employers seeking to resolve human resource problems, and to give several examples of the benefits enjoyed by employers who invest in training.

NOTE: Data and information presented above were current at the time of the study.

CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ The growth of the fast-food segment and franchising within the industry. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ Need for a workforce better able to implement health regulations. <p>Technological</p> <ul style="list-style-type: none"> ▶ Technological changes were not having a major impact on skills in this industry. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ Factors affecting consumption of food prepared away from the home included: rising incomes; more women entering the workforce; a desire for more convenience of prepared meals; and the growth of single-parent households. ▶ More health conscious consumers were influencing the range of foodservices available. ▶ A limited supply of people for entry-level positions was posing problems for the industry.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ A fragmented sector made up of restaurants and institutional settings such as: hospitals, universities, nursing homes, accommodations, take-out/delivery, taverns and caterers. ▶ A service sector. ▶ Total sales were estimated at \$23 billion in 1988. ▶ Sales growth was strong over the past few years. ▶ Dominated by small independent businesses. ▶ Total establishments were estimated at 60,000. ▶ The geographic distribution of establishments was linked to population distribution.
UNIONIZATION / PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ The unionization rate is very low. ▶ Professional associations include: the Canadian Food Services Executives Association, the Canadian Federation of Chefs de Cuisine and the Canadian Restaurant and Foodservices Association.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ Total employment was estimated at 580,000 in 1986. ▶ Full-time, part-time, seasonal and short term work are all found in this industry. ▶ Major occupations in the industry include: management positions; chefs and cooks; bartenders; servers; food and beverage preparation positions; and, dietitians and nutritionists. ▶ The median age of 24 years for men and 27 years for women is lower than the average Canadian labour force; there are also lower education levels than for the average labour force. ▶ Women account for 2/3 of employment and students are an important source of labour. ▶ A large proportion of different ethnic, racial and language groups are represented in the industry.

NOTE: Data and information presented above were current at the time of the study.

EMPLOYMENT PATTERNS (continued)	<ul style="list-style-type: none"> ▶ There are few barriers to entry for most occupations. ▶ There was high turnover and difficulty retaining older workers, resulting in limited loyalty to occupations. ▶ Many employees do not consider the industry as a career, but rather as a temporary measure to earn income.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Recruiting and retaining staff is considered a major problem for the industry. ▶ Incomes are lower than other industries or occupations but for many workers, who rely on tips, income may be under-reported. ▶ HR policies are well developed in large institutions but small firms had limited formal HR policies.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ Sources of basic training/education depended on the sector and the job; many fast-food operations required no training or experience at the entry level; cooks' and chefs' training may have ranged from limited to very extensive depending on the sector; management positions tended to be filled through internal promotions; community colleges were not an important source of labour. ▶ There was limited use of apprenticeships, mainly for cooks. ▶ Small establishments did not consider colleges to offer training appropriate to these firms. ▶ Certification not required for occupations; initiatives underway to develop certification standards. ▶ Industry-education links: little contact between industry and education providers; large institutions are more likely to recruit graduates from colleges than small firms.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ The internal training planning/infrastructure was weak in the vast majority of firms. ▶ Career development/counselling supports are also weak. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ There was an acknowledged need to improve recruitment approaches; newspaper ads were the most commonly used method; word-of-mouth was the next most popular method. ▶ The industry has a poor image contributing to difficulty in recruitment and retention. ▶ It is perceived as a low status, low-paying career. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ Little training is provided; employees are left to "sink or swim"; most training is informal, entry-level orientation using the "buddy system". ▶ Government-sponsored training is not widely used; awareness of these programs is low.

NOTE: Data and information presented above were current at the time of the study.

KEY HR ISSUES (continued)	<ul style="list-style-type: none"> ▶ A need for soft skills development such as in customer service. ▶ While there is need to improve supervisory and management skills, employers do not see management as requiring training. ▶ With regard to education/training for entry level positions, experience is considered to be more important than formal training; many employees have no training. ▶ Few establishments have ongoing programs for upgrading of staff. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ Limited compensation hinders retention. ▶ Working conditions are considered poor by many potential entrants. ▶ Compensation issues affect establishment of a career path, for example moving from the "front of the house" where tips are available, to a management position. <p>Other</p> <ul style="list-style-type: none"> ▶ Not mentioned.
RECOMMENDED PRIORITIES FOR ACTION	<ul style="list-style-type: none"> ▶ Better human resource practices such as wider recruiting, improved selection, improved orientation for new employees, improved career planning and training.
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NOTE: Data and information presented above were current at the time of the study.

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NOTE: Data and information presented above were current at the time of the study.

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MEMBERS OF THE STEERING COMMITTEE	Employers Cara Operations Limited Culinary Institute of Canada East Coast Catering Marriot Corporation McDonald's Mylinott Food Services Management Wandlyn Inns Ltd. Unions/Professional Associations Hotel Employees' and Restaurant Employees' International Union United Food and Commercial Workers International Union Industry Associations and Councils Canadian Federation of Chefs de Cuisine Canadian Food Services Executives Association Canadian Restaurant and Food Services Association Hospitality Newfoundland and Labrador Hotel Association of Metropolitan Toronto Tourism Industry Association of Canada Tourism Industry Association of P.E.I. Educators George Brown College of Applied Arts and Technology Humber College of Applied Arts and Technology Institut du tourisme et de l'hôtellerie du Québec Kelsey Institute Northern Alberta Institute of Technology Nova Scotia Department of Advanced Education and Job Training Yukon College Government Employment and Immigration Canada Ministère de la Main-d'oeuvre et de la Sécurité du revenu, Quebec Ministry of Skills Development, Ontario Tourism Canada

NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1995 HUMAN RESOURCES STUDY OF THE FURNITURE MANUFACTURING INDUSTRY

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ This 151 page detailed report entitled "<i>Today's Challenges, Tomorrow's Realities: Towards a Human Resource Strategy in the Canadian Furniture Manufacturing Industry</i>", was published in 1995. ▶ The research was undertaken by Caron Belanger Ernst & Young.
IMPETUS FOR STUDY	<p>General</p> <ul style="list-style-type: none"> ▶ Develop a long term HR strategy for Furniture Manufacturing Industry. ▶ Develop stakeholders' support for future actions to address the industry. <p>Specific</p> <ul style="list-style-type: none"> ▶ Assess business environment (Current and future outlook from a global, national, regional, and sub-sectoral standpoint) and its impact on HR. ▶ Identify new and future technologies and their impact on the workforce. ▶ Assess employment issues across all regions. ▶ Identify gaps in training and education. ▶ Assess the effectiveness of HR planning and development by management.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ Review of existing industry studies, statistics and documentation. ▶ Over 200 interviews were conducted with employers and union representatives, training institutions, equipment suppliers and retailers. ▶ More interviews were conducted with other industry stakeholders, including 16 suppliers of equipment to different subsectors, and 21 retailers across Canada. ▶ Focus groups were completed with employees, laid-off workers, college instructors and students in furniture programs, interior designers, industrial designers, and research institutions. ▶ A survey of Canadian and American public training institutions engaged in providing furniture-related training was conducted. A detailed questionnaire was developed to obtain both quantitative and qualitative analysis information. A total of 32 training institutions in Canada were contacted as well as five institutions in the U.S.. Members of the consulting team also visited Conestoga College's Woodworking Centre in Kitchener, Ontario; L'École québécois du meuble et du bois ouvré in Victoriaville, Quebec; and Red River College in Winnipeg.

NOTE: Data and information presented above were current at the time of the study.

<p>CHANGE DRIVERS</p>	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ Industry saw double-digit growth during the 1980's until the 1990-1991 recession. Total shipments fell from \$5 billion in 1990 to \$3.6 billion in 1993 (decrease of 28%). ▶ Recession affected industry much more than other manufacturing industries. ▶ Due to increased globalization, exchange rate fluctuations have a much greater influence (high exchange rates = low exports). ▶ More focus and emphasis on niche markets (see social/demographic below) and flexibility of manufacturers, as well as the need to be consumer-oriented (focus on selling and marketing products). ▶ Outlook - slow growth in sales and employment throughout the remainder of the 1990's. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ NAFTA - reduced tariffs resulted in a greater emphasis on both imports and exports (Exports rose from 17.3% of all shipments in 1989 to 40.3% in 1993. Imports rose from 19.7% of market in 1989 to 34.9% in 1993). <p>Technological</p> <ul style="list-style-type: none"> ▶ Hard-technologies are those that have a direct relationship to the production process - Increased use of Computer-Assisted Design, Computer-Assisted Manufacturing, Computerized Production Planning and Computer-Integrated Manufacturing has and will dramatically alter the production workplace. ▶ Process-technologies enable manufacturers to increase the efficiency of managing material flow - Bar-Coding, Robotics, materials tracking and management technologies becoming more prevalent. ▶ Soft-technologies are those that have an indirect influence on the productivity and efficiency of the production process - Increased emphasis on Quick Set-Up, Cellular Manufacturing, Just-In-Time Inventory, Total Quality Manufacturing, and ISO 9000. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ Aging of the population is expected to result in a niche market for furniture designed for the elderly. ▶ As baby boomers are reaching their peak earning years, a market for high-end furniture is expected to develop. ▶ As home-offices become more prevalent, a market for this specific furniture should also develop.
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NOTE: Data and information presented above were current at the time of the study.

CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ Industry consists of Major Group 26 with subsectors 261- Household Furniture, 264 - Office Furniture and 269 - Other Furniture. ▶ Total establishments in 1992 - 1,409 (Decreased by 27% since 1990). ▶ Total shipments in 1992 - \$3.771 billion (Decreased 23% since 1989). ▶ In 1992, Household Furniture represented 53% of establishments and 49% of shipments; Office - 13% of establishments, 24% of shipments; Other - 34% of establishments and 27% of shipments. ▶ Strictly manufacturing. ▶ The market is very fragmented - 10 largest firms represent only 14% of shipments, 100 largest firms only 44% of shipments. ▶ In 1991, Ontario had 650 establishments (down 11% from 1990), Quebec had 720 (down 27%), and BC and Prairies had 300 (down 9%). ▶ In 1991, Ontario represented 54% of shipments (down 4% from 1990), Quebec/Atlantic 32% (unchanged) and BC & Prairies - 14% (up 4%). ▶ Revenue and Demand characteristics - Increased focus on maintaining and promoting better links with retailers (adaptability & flexibility, and a greater support structure); Increase in niche & specialty manufacturing (home office, high-end furniture, etc.). ▶ Key success factors - flexibility of workforce, cooperative labour-management relations, product quality, innovative establishments, leaders in standards development.
UNIONIZATION / PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ In 1990, unionized workers accounted for 15% (8,606) of the total furniture workforce. ▶ The proportion of the workforce represented by union members, by sector, is 24.2% household, 7.5% office and 7.1% other.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ Employment in the industry peaked in 1989 at 63,000 workers and has since declined to 44,000. ▶ From 1989 to 1992, the employment in the Household sector fell 33% to 21,760, Office fell 52% to 9,763 and Other fell by 32% to 12,415. ▶ From 1986 to 1991, employment in BC/Prairies rose 24%, Ontario fell by 30% and Quebec/Atlantic fell by 20%. ▶ Major Occupations: Product Fabricating/Assembly & Repair - 49% of employees; Managerial & Administration - 11.2%; Clerical - 10.4%; Machining - 6.8%; Construction - 5.4%; Sales - 3.9%. ▶ Approximately 10 - 15% of employers expressed difficulty retaining employees (mainly in production); and lost most employees to other manufacturing industries. ▶ Average wages in the furniture industry are \$26,125 compared to \$45,089 in all manufacturing industries. ▶ The workforce is 77% male and 23% female, and has remained unchanged since 1986.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Compared to other industries, formal HR practices tend to be weak. ▶ 74% of employers expressed an interest to hire graduates of a training institution.

NOTE: Data and information presented above were current at the time of the study.

<p>TRAINING AND DEVELOPMENT PATTERNS</p>	<ul style="list-style-type: none"> ▶ Only 54% of employers provide any formal training, compared to 77% for all manufacturing industries. Approximately 50% of all employers and union representatives cite the financial costs as a barrier to training. ▶ Only 54% of all employers were aware that there were training programs oriented to the furniture manufacturing industry and only about 15% of employers have actually hired a graduate from one of these programs. ▶ 46% of all employers who have hired a graduate of a furniture training program said their skills were very good while another 45-50% said they were acceptable. ▶ Colleges felt they needed more funding and resources in order to expand and market their programs. ▶ Employers need to be made aware of the existence of training programs and institutions in order to meet their workforce needs. ▶ There is a definite need to establish and promote better linkages between training institutions and employers through the use of co-op programs, and apprenticeship programs.
<p>Key HR Issues</p>	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ Future employment growth expected to be modest (1% - 2%), with most new jobs resulting from the replacement of workers who quit or retire. ▶ Employers rated all employees' skills levels at approximately 3.6 out of 5. ▶ Canadian firms tend to be less capital intensive than U.S. firms. There will be pressures to achieve productivity gains with current workers. ▶ The industry needs to find the resources to reinvest in technology and related training. ▶ As the organizational environment changes (i.e. decentralized work organization) there will be a greater pressure on supervisors and lead hands to become more proficient at both the hard and soft technologies in order to achieve greater organizational success. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ Majority of union representatives and employers felt that the image of the industry to provide career opportunities for young people was poor. It is felt that managements' approach to HR and training does not promote opportunities. ▶ Almost half of all employers expressed difficulty in recruiting for certain occupations (mainly production). Employers in the West reported greatest difficulties (67% reported problems), mainly due to fewer training institutions in the region. ▶ For semi-skilled positions, approximately 35% of employers have no minimum education requirements while another 35% require at least a secondary school certificate. ▶ For management positions, approximately 50% of employers require at least some post-secondary education. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ There is very little interaction between industry and training institutions with regards to upgrading skills of existing workers.

NOTE: Data and information presented above were current at the time of the study.

KEY HR ISSUES (CONTINUED)	<ul style="list-style-type: none"> ▶ Union reps felt there was little help from government and training institutions for retraining. ▶ Employers identified that production employees need to increase their basic literacy and numeracy skills in order to fully take advantage of the emerging technologies. However, there has been very little training provided by employers to improve these basic skills gaps. ▶ Employers also identified that in the next five years, there will be a need for training in the following areas - Office technologies (66%), Manufacturing technologies (57%), Design technologies (57%), and Total Quality Management (TQM) (57%). The introduction of these new technologies is not expected to have a significant impact on employment levels. ▶ Employers identified supervisor/lead hands as a priority for training, specifically computer/technological (hard and soft) skills, production skills and supervisory skills. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ No mention of specific reward/retention issues. <p>Other</p> <ul style="list-style-type: none"> ▶ There are a number of sources of governmental funding (provincial subsidies, CEC, WCB, welfare, etc.) but many employers and employees have expressed difficulty in obtaining funding. ▶ Manufacturers need to upgrade strategic marketing, sales and distribution channel management through training. ▶ They must develop improved sales and merchandising aids and provide more training to retailers (to improve cooperation and communication with retailers). ▶ Need to become more innovative and flexible in design management.
RECOMMENDED PRIORITIES FOR ACTION	<ul style="list-style-type: none"> ▶ Set up a permanent Canadian entity responsible for human resources in the furniture industry. ▶ Enhance the skills of the workforce. ▶ Enhance the linkages between industry and training institutions. ▶ Promote training and cultural change through stakeholder relations. ▶ Concentrate on human resources planning and development.
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MEMBERS OF THE STEERING COMMITTEE	Employers Accro Furniture Industries Furniture West Inc. Jaymar Canada Simmons Canada Unions/Professional Associations Central des syndicats démocratique Confédération des syndicats nationaux (CSN) International Woodworkers of America Fraternité nationale des charpentiers, menuisiers, forestiers et travailleurs d'usines Teamsters Syndicat des Métallos Industry Associations and Councils Association des fabricants de meubles du Québec Manufacturers' Association of Canada Ontario Furniture Manufacturers' Association Educators Conestoga College École québécoise du meuble et du bois ouvré Ryerson Polytechnical Institution Government Human Resources Development Canada Industry Canada

NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1993 HUMAN RESOURCES STUDY OF THE **HORTICULTURE INDUSTRY** **- NATIONAL REPORT -**

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 109 page detailed report, entitled "<i>Horticulture Industry: Organizing for the Future - Human Resource Issues and Opportunities - National Report</i>", was published in 1993. ▶ The research was undertaken by Ernst & Young.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Industry experienced difficulties meeting short-term and longer-term HR needs, particularly for very skilled workers in greenhouse, nursery and mushroom sectors.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ Review of data completed using data from relevant previous studies, Statistics Canada, Agriculture Canada and provincial departments of agriculture. ▶ An extensive interview program, including about 400 people, was executed with key representatives of industry associations, training institutions, governments, and growers, including those involved in the industry in the Netherlands and Belgium. ▶ Focus groups were conducted with growers, training institutions and employees at all levels including skilled, semi-skilled and seasonal labour. ▶ Several case studies profiled successful human resource practices in Canada.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ Globalization of produce markets ▶ Canada-U.S. Trade Agreement (CUSTA). ▶ Increasing competition in local fresh and processed markets. ▶ Need to reduce/control operating costs to remain competitive. ▶ Energy costs rising. ▶ Plant breeders rights expected to add to cost structure. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ Increased regulation on pesticide use; integrated pest management emerging. ▶ PVYn virus in PEI caused a ban on exports to U.S. ▶ Environmental concerns such as soil conservation and degradation. <p>Technological</p> <ul style="list-style-type: none"> ▶ Technological change mostly evolutionary in nature, which includes new crop production technologies; and biotechnology in plant propagation. ▶ Information technologies in management systems and in climate controls; will reduce the tolerance for error. ▶ Canadian growers have not fully adopted technologies which are now available on a global scale; expect to see increased use of computerization and automation in environmental controls, materials handling.

NOTE: Data and information presented above were current at the time of the study.

CHANGE DRIVERS (CONTINUED)	<ul style="list-style-type: none"> ▶ The level of technology tends to vary for each crop within each sector. ▶ Horticulture technologies require continuous observation and care in order to achieve the desired productivity and quality of product. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ Fewer immigrant workers in the rural communities. ▶ High concentration of young people work in this sector, but the youth population is decreasing.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ Primary sector ▶ Sector definition: greenhouse floriculture, greenhouse vegetation, nursery products, mushrooms, potatoes, field vegetables, and fruit. ▶ Total sales estimated at \$3.7 billion in 1990; of this amount, farm gate receipts were \$23 billion. ▶ Employment relatively concentrated with 10% of farms accounting for over 50% of wages and salaries paid. ▶ Marketing boards in a few commodities; for-processing sector is generally better organized; fresh production characterised by roadside sales; relatively small portion to retail. ▶ Government sponsored research and development (R&D) (including variety development and adaptation of production innovations) plus provincial technology transfer but new innovations not limited to Canada. ▶ Large, very complex and fragmented structure. ▶ Mostly privately-owned small businesses with family operations. ▶ Production is dispersed geographically across Canada. ▶ Production value is 44% in Ontario, 17% in Quebec and 16% in B.C., but growth is higher in the Prairies and Atlantic. ▶ Recent financial performance varies across subsectors. ▶ Outlook for limited growth in mushroom, fruit, and vegetable sectors (1-2%), but stronger growth (3-5%) forecast in floriculture and greenhouse. ▶ Considerable variability in performance among specific crop segments. ▶ Market is very competitive. ▶ Canadian producers are generally residual suppliers and, thus, price takers. ▶ Growing consumer demand for fresh produce and processed products. ▶ Demand for nursery and some floriculture products tied to housing and construction. ▶ Key success factors: quality, consistency, and links to the marketing chain.
UNIONIZATION/ PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ Unionization very low.

NOTE: Data and information presented above were current at the time of the study.

EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ Total employment estimated at 100,000 in 1990; 30,000 Full-Time. ▶ Seasonal employment common particularly in harvesting operations (70% of people are not FT). ▶ Semi-skilled jobs in planting, cultivating and harvesting which include: propagation, transplanting, pruning, spraying, fertilizing and digging. ▶ Skilled workers are supervisors and some equipment operators and tend to specialize in a crop. ▶ Owner/managers and owner/operators control and direct both the day-to-day and long term aspects. ▶ Very young workforce in production (average 24 years old); average age of owner/ managers was over 50 in 1986. ▶ Relatively low levels of education; historical reliance on migrant workers from the Caribbean and Mexico. ▶ Very high turnover due to seasonality. ▶ Basic career path is from skilled workers to managers or owner/operators. ▶ High loyalty to occupation among owner/operators but seasonal workers tend to exit.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Provincial employment jurisdiction, but generally not fully covered by employment standards or labour relations legislation. ▶ Heavy reliance on government programs in sourcing seasonal workers; Agricultural Employment Services (AES) recruited 275,000 workers in 1990; 225,000 were assisted with Day Haul programs. ▶ In the past, skilled workers were recruited from Europe. ▶ Seasonal workers hourly paid; between \$6-8/hour for semi-skilled jobs. This wage level is perceived to be low but it is actually relatively higher than other sectors employing unskilled or semi-skilled workers (due to overtime). ▶ There is considerable piece work. ▶ Downsizing not an issue. ▶ Very minimal actual Human Resource Planning (HRP) activity/capacity.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ Most production workers are not well educated. ▶ Apprenticeship in some occupations in a few provinces but many journey level workers work outside the sector. ▶ No standardized training for those in apprenticeship programs. ▶ Colleges have diploma programs but these are not main source of employees for this sector. ▶ Many graduates of the college and university programs go into the related service industries or to government.

NOTE: Data and information presented above were current at the time of the study.

TRAINING AND DEVELOPMENT PATTERNS (CONTINUED)	<ul style="list-style-type: none"> ▶ Informal internal training such as on-the-job training. ▶ Certification required for pesticide applicators; some OSH related certification also. ▶ Limited industry-education links due to the fragmentation of the sector; contrast pattern in Netherlands. ▶ Common training activities for grower/managers are short courses offered in off-season.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ Emerging technologies change production and management work but little change in work design. ▶ Expect emergence of narrower specialization, and consulting services tied to specific technologies. ▶ Fit of current skills/emerging skill requirements/skills shortages. ▶ Need for retraining/upgrading. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ Long term pattern of problems recruiting seasonal workers. ▶ Unemployment insurance (UI) and other social assistance programs considered as barriers to recruitment. ▶ Image of the industry considered a problem. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ Need to improve training infrastructure for entry-level, semi-skilled workers as well as more skilled workers. ▶ Need for stronger continuous learning infrastructure/supports. ▶ Adequacy of career development/counselling not an issue. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ Need to address the limited employee benefits available to seasonal and full-time (FT) workers. ▶ Occupational health and safety is an issue, particularly for those using pesticides. ▶ Working conditions include long shifts, hard physical labour, mostly outdoors, and in rural areas. ▶ Migrant work in some areas. ▶ New technologies change working conditions, especially in greenhouse sector. <p>Other</p> <ul style="list-style-type: none"> ▶ Need to enhance workforce balance not an issue. ▶ No need for downsizing/outplacement. ▶ Need for improved production and Human Resource (HR) data. ▶ Strong focus of report on adequacy of government HR supports/infrastructure. Highly critical of federal spending on training for unemployed (see p. 94--at least 84% of Canadian Job Strategy (CJS) training funds are allocated to provide training to the unemployed despite the fact that employers may want to upgrade themselves and/or their employees).

NOTE: Data and information presented above were current at the time of the study.

<p>RECOMMENDED PRIORITIES FOR ACTION</p>	<ul style="list-style-type: none"> ▶ Organize nationally and regionally, with a focus on a proactive approach to competitiveness, trade, marketing, labour, HR etc. ▶ Address the image of the industry. ▶ Industry associations to set up group employee benefit programs. ▶ Management and supervisory training. ▶ Training in human resources. ▶ Marketing and market research training. ▶ Technical skills upgrading. ▶ Train the trainer initiatives - with a focus on European expertise. ▶ Increased funding for employed worker training/upgrading. ▶ Increased educational technology use, facilitated through resource clearing house. ▶ Standardized performance levels and voluntary certification. ▶ Expanded apprenticeship, with consideration of national standards. ▶ Industry exchanges. ▶ Initiatives to recruit immigrant workers. ▶ Legislative change to allow unemployment insurance (UI) claimants and social assistance recipients (SARs) to work part-time or seasonally; to allow workers to claim for their best 10 weeks. ▶ Improvements to government and community labour pool programs. ▶ Improved linkages for extension, technology transfer and R&D. ▶ Evaluation of effectiveness of research and technology transfer functions.
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NOTE: Data and information presented above were current at the time of the study.

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NOTE: Data and information presented above were current at the time of the study.

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NOTE: Data and information presented above were current at the time of the study.

<p>MEMBERS OF THE STEERING COMMITTEE</p>	<p>Employers Connery's Riverdale Farms Ltd. Delhaven Orchards Ltd. Driediger Farms F.H. Rabb Greenhouses Ltd. Flowers Canada Inc. Leaver Brothers Mushrooms Co. Ltd. MacDonald Brothers Farm President de Cactus fleuri inc.</p> <p>Unions/Professional Associations Canadian Nursery Trades Association</p> <p>Industry Associations and Councils Canadian Horticultural Council Nova Scotia Fruit Growers' Association Western Greenhouse Growers Co-operative Association</p> <p>Educators University of Guelph</p> <p>Government Agriculture Canada Employment and Immigration Canada</p>
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NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1993 HUMAN RESOURCES STUDY OF THE **HORTICULTURE INDUSTRY** **- ATLANTIC REGION -**

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 63 page detailed report, entitled "<i>Horticulture Industry: Organizing For The Future - Human Resource Issues and Opportunities - Atlantic Region</i>", was published in 1993. ▶ The Atlantic Regional Working Party was formed in 1990. ▶ The research was undertaken by Siskin Management Incorporated, in association with Ernst & Young.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Concern about the growing problem of attracting and retaining sufficient numbers of entrants and qualified people to meet the industry's current and projected needs.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ A review of data was completed using data from relevant previously published reports, Statistics Canada, Agriculture Canada and provincial departments of agriculture. ▶ An extensive interview program was undertaken, including 45 growers, 45 non-growers and 5 focus groups.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ There have been fluctuations within the various crop sectors, as producers react to market dynamics and import competition. ▶ Unlikely the industry will show substantial growth in the next 10 years, due to downward price pressures as a result of several factors, including tariff reductions through FTA, further development of the Mexican industry and changes in world agriculture trade practices as a result of GATT. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ The Potato Virus Yn in P.E.I. caused a ban on exports to the U.S. ▶ The lack of a collective voice in the region makes it difficult for the industry to have a strong lobby and sense of direction. <p>Technological</p> <ul style="list-style-type: none"> ▶ Technological change will not affect all sectors or all farm operations equally. ▶ Process change in the development and use of technologies and growing techniques that affect stages of germination, propagation, cultivation, harvesting, marketing and management. ▶ Product or crop change includes trends in the development of new cultivators or plant varieties. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ High concentration of young people.

NOTE: Data and information presented above were current at the time of the study.

HORTICULTURE INDUSTRY - ATLANTIC REGION - 1993

CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ The Atlantic horticulture producing region represents 14% of the total Canadian horticulture industry. ▶ The industry is fragmented, with many small producers and a few large producers. ▶ Sales by subsector in 1990: potatoes, \$200 million; fruits, \$37 million; field vegetables, \$26.5 million; mushrooms, \$3 million; greenhouse floriculture, \$29 million; nursery, \$8 million; greenhouse vegetables, \$3 million. ▶ Horticulture in the Atlantic represents a \$300 million industry (Prince Edward Island, \$120 million; New Brunswick, \$100 million; Nova Scotia, \$60 million; Newfoundland, \$10 million). ▶ Atlantic Canada's horticulture industry has grown 122% in the last ten years; growth in sales has come from potatoes, fruit and the nursery sector. ▶ The outlook is mixed: Crops expected to do well include potatoes, blueberries and specialized fruit and vegetable crops and nursery products. Problem sectors include vegetables (face high import competition, lack of industry organization, and small production bases), and the greenhouse and mushroom industries (have growth opportunities, but restricted by high cost of technology and energy, and by technical education\training capabilities).
UNIONIZATION/ PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ In some sectors there are no growers' associations, and in some cases the existing associations are weak.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ Industry employs 10,000 workers; over 65% are part-time or seasonal. ▶ There are four basic employee positions: owners/growers/managers; semi-skilled labour; semi-skilled seasonal labour; trained horticulture technicians. ▶ There are problems recruiting labour and motivating workforce due to low pay.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Recruitment techniques include: word of mouth; referral and family contact; Agriculture Employment Services (AES). ▶ Recruitment success is inhibited by the public's perception of the horticulture industry and its poor image. People do not see the industry as a viable option for career opportunities. ▶ Recruitment of foreign workers is common, especially for seasonal occupations. However this source of labour could be reduced in future years, particularly if governments decide these jobs could be carried out by unemployed Canadians.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ Currently there is a lack of suitable programs. ▶ There is a lack of adequate communication between governments, farmers and training institutions regarding developing and implementing suitable training. ▶ Currently there are no apprenticeship programs available in the area.

NOTE: Data and information presented above were current at the time of the study.

KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ Emerging technologies will affect the number and occupational mix of employees at different levels in the industry. ▶ Emergence of independent services and consultants is expected, to assist with specialized tasks including growing, storage, marketing, distribution and financial management. ▶ Need for upgrading/retraining. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ Industry has poor image: wages perceived as low, working conditions difficult, hours long, and there are limited prospects for long-term, satisfying careers. ▶ Poor economy increased pool of available labour to agriculture, although those available are predominately semi-skilled and often unsuited to the industry. ▶ Finding people who meet necessary job requirements is a challenge. ▶ New technologies, such as computers and robotics, likely to require that individuals acquire new skills and learn how to operate new equipment. ▶ There is a need for marketing to potential employees to illustrate the positive aspects of a lifestyle and career which all owners/managers and industry should strive to define. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ There are low levels of employee literacy and numeracy. ▶ Level of technology has increased on farms, requiring more skills for labourers and semi-skilled workers to do their jobs efficiently. ▶ Growers need to upgrade technical, marketing and HR management skills constantly in order to remain competitive. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ Problems retaining skilled/experienced labour. ▶ The industry seems to realize that good people are worth more when they are more productive, but not many growers have found ways to compensate good workers for higher levels of productivity. <p>Other</p> <ul style="list-style-type: none"> ▶ Not mentioned.
RECOMMENDED PRIORITIES FOR ACTION	<ul style="list-style-type: none"> ▶ There are 21 recommendations discussed under nine categories which include: organize to address industry and human resource issues; industry image; skills training; technical training; certification; cooperative training and apprenticeship; industry exchanges; attracting and retaining labour; and, extension research and technology transfer. ▶ Some examples include: <ul style="list-style-type: none"> - Organizations need to realign their emphasis from lobbying governments to developing a more proactive approach to competitiveness, trade, regulations, technology, environmental, labour, and HR. - Enhance industry image. - Industry needs to upgrade itself in terms of key management skills (HR management, marketing and financial management skills). - Enhance apprenticeship/certificate programs.

NOTE: Data and information presented above were current at the time of the study.

RECOMMENDED PRIORITIES FOR ACTION (continued)	<ul style="list-style-type: none"> - Industry should encourage non-traditional and informal types of training material (e.g. short courses, study groups, video-based instructional materials, independent study modules, correspondence/distance education and modular-based training. - Industry should explore exchange programs at all levels to become and remain up-to-date on current practices. - Sectors of the industry should organize to identify HR problems relating to attracting and retaining full-time year-round skilled and semi-skilled employees, and develop strategies to address this need. - Industry should work with both levels of government to provide incentives to allow individuals to work in horticulture. - Assist growers and owners to adjust to the global marketplace through improved technology and management techniques.
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NOTE: Data and information presented above were current at the time of the study.

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MEMBERS OF THE REGIONAL WORKING PARTY	Employers <ul style="list-style-type: none"> Avon Valley Greenhouse Belleisle Farms Brookfield Gardens MacDonald Bros. Farm Maritime Sod Limited Melvin Farms Scotts Nurseries Limited W.B. Coburn & Sons Limited Webster Farms Industry Associations and Councils <ul style="list-style-type: none"> New Brunswick Potato Agency New Brunswick Potato Council Unions/Professional Associations <ul style="list-style-type: none"> Newfoundland Greenhouse Growers Association Nova Scotia Fruit Growers Association Educators <ul style="list-style-type: none"> Ontario Agricultural College - University of Guelph Nova Scotia Agricultural College Government <ul style="list-style-type: none"> Agriculture Canada Agricultural Employment Services Department of Forestry and Agriculture Employment and Immigration Canada New Brunswick Department of Agriculture Nova Scotia Department of Agriculture Prince Edward Island Department of Agriculture

NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1993 HUMAN RESOURCES STUDY OF THE **HORTICULTURE INDUSTRY** **- BRITISH COLUMBIA REGION -**

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 50 page detailed report, entitled "<i>Horticulture Industry: Organizing For The Future - Human Resource Issues and Opportunities - British Columbia Region</i>", was published in 1993. ▶ The British Columbia Regional Working Party was formed in 1990. ▶ The research was undertaken by Ernst & Young.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Concern about the growing problem of attracting and retaining sufficient numbers of entrants and qualified people to meet the industry's current and projected needs.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ A review of data was completed using data from relevant published reports, Statistics Canada, Agriculture Canada and provincial departments of agriculture. ▶ An extensive interview program, including 95 individuals from all sectors of the industry and government were conducted.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ Greenhouse vegetables, floriculture, and nursery sectors are expected to continue growing. ▶ Fruit, vegetable, potato and mushroom sectors are under tough competitive cost pressures resulting from: tariff reductions through FTA; further development of the Mexican industry; and, changes in world agriculture trade practices as a result of GATT. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ All workers will have to become more familiar with integrated pest management techniques. <p>Technological</p> <ul style="list-style-type: none"> ▶ Computers and automation are likely to move operations such as greenhouse floriculture, greenhouse vegetables and mushrooms into a highly controlled mode of operation. ▶ Technological change in the seasonal sectors is more evolutionary in nature since they rely on family labour supplemented by seasonal labour during periods of peak labour demand. The ability to replace seasonal labour with technology is limited. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ English as a second language is an important concern in B.C.

NOTE: Data and information presented above were current at the time of the study.

HORTICULTURE INDUSTRY - BRITISH COLUMBIA REGION - 1993

CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ B.C. is one of Canada's major horticultural producing regions with 17% of national value of production. ▶ The industry in B.C. is characterized by very strong, talented and dedicated group of growers, government and industry officials. ▶ Experienced significant growth during 1980's when floriculture, nursery products, mushroom and greenhouse vegetable sales more than doubled. ▶ Level of sales and number of establishments in 1990: Fruits, \$109.4 million, 3,000 growers; Floriculture, \$74 million, 233 growers; Nursery, \$60 million, 250 nurseries; Field Vegetables, \$49.5 million, 300 growers; Potatoes, \$21 million, 147 growers. ▶ There is a prediction of fewer farms and orchards as less efficient producers leave the industry in all sectors.
UNIONIZATION/ PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ There are several effective associations in place which provide structure and support to the growing community as well as a capable lobbying voice.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ There were between 17,400 - 20,900 workers in the B.C. industry in 1990; approximately 3,800 - 5,200 full-time, and 13,600 - 15,600 part-time. ▶ Most full-time labour is skilled through formal training and/or long-term experience; seasonal labour force is unskilled.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ There is a low awareness of HR management issues among growers. There is a need to get people to recognize problems. ▶ Children of growers/owners or persons who have worked in horticulture are the traditional source of new entrants. ▶ Recruitment of foreign workers is used to address shortage of skilled/experienced workers.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ Sources of training include: university, community colleges and short courses offered by government and industry. ▶ Funding for most HRDC programs goes to the unemployed with little or no spending on skills-upgrading of the current workforce. ▶ Agriculture Canada can continue to support farm management training. ▶ The province has had to become a major supporter of training.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ There is growth in skilled occupations and a continuing emergence of independent services and consultants to assist with specialized tasks, including growing, storage, marketing, distribution and financial management. ▶ There is a growing shortage of entry-level skilled workers; this problem will continue to grow as the industry advances technologically. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ Industry has a very poor image due to: low wages; difficult working conditions; long hours; and, limited prospects for long-term satisfying careers. ▶ The majority of workers enter the industry by chance to earn quick money; most do not consider it as a career.

NOTE: Data and information presented above were current at the time of the study.

<p>KEY HR ISSUES (continued)</p>	<ul style="list-style-type: none"> ▶ Currently there is an adequate supply of seasonal workers. However continuing demand and more restrictive laws on immigration will result in future shortages. ▶ There is a need to market the sector to potential employees to illustrate positive aspects of lifestyle and career which all owners/managers and industry should strive to define. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ Grower owners/managers need training in HR management, technologies, marketing, communications and financial skills. ▶ Managers and employees require continuous upgrading to enable them to cope with increased competitive environments and technological advances. ▶ Apprenticeship programs are neither fully utilized nor well understood by members of the industry. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ Problems retaining skilled/experienced labour. <p>Other</p> <ul style="list-style-type: none"> ▶ Not mentioned.
<p>RECOMMENDED PRIORITIES FOR ACTION</p>	<ul style="list-style-type: none"> ▶ There are 29 recommendations discussed under five categories which include: industry image; education, training and upgrading; supply of labour; extension and research support; and, commodity groups under transition. ▶ Some examples include: <ul style="list-style-type: none"> - Need to improve image of sector through marketing strategies emphasizing available opportunities, attractive lifestyle, potential career patterns and entrepreneurial prospects. - Examine the need for a comprehensive horticulture education program at the university level. - Create awareness of the importance of upgrading skills, and encourage all growers, co-op employees and senior employees to attend training opportunities. - Each sector should institute upgrading programs for intermediate managers, owners, co-op employees and skilled employees. - Review, broaden, enhance and effectively market apprenticeship programs; institute certification programs. - Evaluate training and upgrading courses on a regular basis. - Clearly define the relationship between pure research, applied research and field trials to improve the industry's information-transfer infrastructure. - Take action to ensure government is aware of horticulture's immigration needs.

NOTE: Data and information presented above were current at the time of the study.

HORTICULTURE INDUSTRY - BRITISH COLUMBIA REGION - 1993

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MEMBERS OF THE REGIONAL WORKING PARTY	<p>Employers</p> <ul style="list-style-type: none"> Cloverdale Produce Farms Limited Driediger Farms Fraser Nurseries <p>Industry Associations and Councils</p> <ul style="list-style-type: none"> B.C. Fruit Grower Association Fraser Valley Mushroom Grower Association Western Greenhouse Growers Co-operative Association <p>Unions/Professional Associations</p> <ul style="list-style-type: none"> Pacific Plants/B.C. Nursery Trades Association <p>Government</p> <ul style="list-style-type: none"> Agriculture Canada Employment and Immigration Canada Ministry of Advanced Education, Training and Technology Ministry of Agriculture, Fisheries and Food The Agricultural Workforce Strategy

NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1993 HUMAN RESOURCES STUDY OF THE **HORTICULTURE INDUSTRY** **- ONTARIO REGION -**

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 64 page detailed report, entitled "<i>Horticulture Industry: Organizing For The Future - Human Resource Issues and Opportunities - Ontario Region</i>", was published in 1993. ▶ The Ontario Regional Working Party was formed in 1990. ▶ The research was undertaken by Ernst & Young.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Growing concern over the nature and scope of human resource problems in Ontario horticulture from the growers' perspective.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ Work completed for this project included an extensive research methodology consisting of the following elements: <ul style="list-style-type: none"> - desk research consisting of a thorough review of published literature including studies, Statistics Canada publications, association publications and industry trade journals; - over 100 in-depth interviews with a wide variety of associations, experts, growers and educators were completed; - six focus groups with employers, employees and students took place. These focus groups covered a wide range of topics relating to employment and training; and, - the government provided an employment analysis for the industry based on the Labour Market Activity Survey.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ It is unlikely that the industry will be able to sustain similar growth patterns over the next ten years. ▶ Most subsectors are affected by downward price pressures as a result of: being under competitive cost pressures resulting from tariff reductions through FTA; further development of the Mexican industry; and, changes in world agriculture trade practices as a result of GATT. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ There is increasingly more environmental concern. <p>Technological</p> <ul style="list-style-type: none"> ▶ Technological change has had an impact on HR needs in a variety of ways. In some cases it replaces workers, and in others it requires an upgrading of skills so workers can adopt the technology effectively. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ Young workforce.

NOTE: Data and information presented above were current at the time of the study.

HORTICULTURE INDUSTRY - ONTARIO REGION - 1993

CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ The province of Ontario is Canada's largest horticulture producer accounting for more than 40% of the nation's farm gate value. ▶ Total value of industry sales in Ontario in 1990 was about \$1 billion. ▶ In terms of 1990 farm gate value, the largest sector is field vegetables (27%), followed by floriculture (25%); fruits (15%); nursery products (15%); mushrooms (8%); potatoes, (6%); greenhouse vegetables (3%). (sale volumes vary in any given year). ▶ The horticulture industry in Ontario has grown significantly over the last ten years; floriculture, nursery products, mushrooms and greenhouse vegetables have accounted for much of this growth. ▶ The ability of Ontario's growers to compete with certain sectors in the United States suggest these industry sectors should be able to compete with foreign producers in other markets. ▶ The outlook is mixed: crops expected to do well include nursery, floriculture and greenhouse vegetables; fruits, potatoes and mushrooms can be competitive with imported products and should sustain production (growth will be moderate); in the field vegetable sector, some crops are expected to continue to be strong, while others are susceptible to competition from the United States and output could decline. ▶ There is potential growth of ornamental horticulture in response to increased interest in gardening and the environment.
UNIONIZATION / PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ Compared with other provinces (e.g., British Columbia), the horticulture industry in Ontario is not well organized. While some individual sectors are organized, there is little evidence of cooperation between sectors.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ The horticulture industry in Ontario employs between 15,000 and 20,000 full-time workers; farm owners or other family members working in a management capacity account for another 15,000- 20,000; seasonal employees account for an estimated 15,000 additional employees per year. ▶ Seasonal labour consists of offshore labourers from the Caribbean or Mexico, as well as students and other domestic workers; offshore labourers are employed primarily in fruit, vegetable, tobacco and nursery. They are not used to any great extent in mushrooms, ornamental horticulture, greenhouses or nursery sod farms. ▶ In comparison with other industries, horticulture employs large numbers of young workers, who may be mostly students; there are very few employees (less than 5%) in the 35 to 44 age bracket.

NOTE: Data and information presented above were current at the time of the study.

HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Recruitment programs for most farms are informal. Word of mouth is a popular method for attracting semi-skilled workers. ▶ In some cases, seasonal student employees become full-time semi-skilled workers when they graduate. ▶ The main sources of skilled workers include semi-skilled workers, immigrants and family members. ▶ The largest source of skilled workers appears to be the pool of semi-skilled workers on the farm who, through on-the-job training (possibly in combination with some educational courses) are promoted to foreman/forewoman or to a supervisor's position.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ Overall, enrollment in ornamental horticulture programs (nursery, floriculture, landscaping and turf management) appears to be growing, while the number enrolled in fruit and vegetable programs is declining. ▶ Each year there are approximately 130 graduates from the horticulture diploma courses. ▶ The Ontario Ministry of Skills Development, in conjunction with community colleges, operates a two-year apprenticeship program designed to provide workers in nursery and greenhouse operation with basic skills. ▶ The Ontario Agriculture Training Institute (OATI) is a self-help training initiative with a mandate to work in cooperation with other stakeholders in the Ontario agri-food system to develop and offer courses which will assist the farmers of Ontario to manage change. ▶ Growers have access to many other courses which provide upgrading in specific areas, many of which are offered at various industry conferences held throughout the year. ▶ In addition to the educational, apprenticeship and seminar programs available to growers, extension services are also available from Agriculture Canada and the Ontario Ministry of Agriculture and Food (OMAF). These offices provide advice to growers on technical or business issues. ▶ Government extension services are used selectively by a minority of growers.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ Technological and crop changes affect the number and occupational mix of employees at different levels (e.g. skilled versus semi-skilled). ▶ There is a need to develop an appropriate system to develop qualified middle-management staff. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ The large number of young workers and lack of workers in the 35-44 age bracket may pose a problem for the industry since one would expect to find tomorrow's managers within this age group. ▶ One of the most important issues facing those sectors with a large percentage of full time employees is the availability of qualified full-time, year-round managers. These managers require both technical and managerial skills, and this combination of skills in the horticulture industry is rare.

NOTE: Data and information presented above were current at the time of the study.

KEY HR ISSUES (continued)

- ▶ Few students are attracted to the horticulture industry for the following reasons: availability of such a career path may not be well known to students, particularly at the high school or college level; many students may perceive that the industry does not pay well compared with other career opportunities; and there are no readily accepted designations for those interested in pursuing this type of career which might serve to attract them to the industry.
- ▶ The most important issue facing farms using a great deal of seasonal employees is the availability of seasonal labour. It is difficult for these farms to attract workers to a job which will last only a few weeks.
- ▶ There is a need to market the industry to potential employees to illustrate positive aspects of lifestyle and career, which all owners/managers and the industry should strive to define.

Training and Development

- ▶ While some skilled workers have formal horticulture training from a college, university or apprenticeship program, the large majority of workers in the industry have learned through on-the-job training provided by employers.
- ▶ Currently most managers are drawn from the ranks of semi-skilled workers. They have good technical knowledge of the job, but often lack management skills.
- ▶ Few graduates from university degree programs are employed in the growing operation due to the fact that they can often earn higher salaries in other industry sectors. Graduates often lack the skills that would encourage growers to meet the salary levels offered by other industry sectors.
- ▶ To provide more skilled workers for the horticulture industry, not only must the mechanisms used to train and educate people improve, but the programs must be fully supported by the industry itself.
- ▶ Growers in the nursery, greenhouse floriculture, greenhouse vegetable and mushroom sectors would be best served with an apprenticeship program designed specifically to improve the skills of the existing employees in these sectors.
- ▶ Skills of the growers participating in apprenticeship programs should be upgraded to ensure that they are qualified to instruct.
- ▶ Growers in the horticulture sector would be best served by college programs that involve significant hands-on training.

Reward/Retention

- ▶ There are problems retaining skilled/experienced labour.
- ▶ Wages in the horticulture industry are comparable with many other sectors of the Ontario economy.

Other

- ▶ HR development must become a priority of all industry bodies representing the horticulture industry, and initiatives designed for Ontario should be integrated with the national programs to reduce duplication of services and efforts.

NOTE: Data and information presented above were current at the time of the study.

<p>RECOMMENDED PRIORITIES FOR ACTION</p>	<ul style="list-style-type: none"> ▶ Improving the competitiveness of Ontario's growers will require a total systems approach which addresses all aspects of the growing operation and HR in particular. ▶ The industry needs to organize to address issues facing the industry as a whole. ▶ Industry should take a number of steps to address the availability of skilled employees, for example by working with the provincial government to develop apprenticeship standards and programs, and to promote career opportunities in the horticulture industry to students at the secondary school level. ▶ The industry needs to develop management courses for existing owners/managers which focus on areas such as finance, accounting, marketing and HR. ▶ Industry should encourage both federal and provincial governments to maintain the Foreign Agriculture Resource Management Services (FARMS) program as a vital part of the labour supply for Ontario's horticulture industry. ▶ The mandate in the extension services should be reviewed in order to allow the extension staff to conduct more applied research; as well the extension staff should be increased.
<p>TABLE OF CONTENTS</p>	<ol style="list-style-type: none"> 1. Study Objectives 2. Industry Profile 3. Employment Analysis 4. Implications of New Technology for Human Resources 5. Education and Training 6. Synthesis and Recommendations <p>Appendices</p> <ol style="list-style-type: none"> 1. Description of Work Completed 2. List of Contacts 3. Extension Staff at the Ministry of Agriculture and Food and Research Branches at Agriculture Canada 4. List of Members of the Ontario Regional Working Party

NOTE: Data and information presented above were current at the time of the study.

LIST OF TABLES/ GRAPHS	<p>Tables</p> <ul style="list-style-type: none"> 2.1 Fruit Growers by Sub-sector 3.1 a) Employment Estimates 3.1 b) Definitions of Size 5.1 Horticulture Diploma Course Enrollment, 1990 5.2 Diploma Programs in Horticulture in Ontario 5.3 Agriculture Canada Research Budget, 1991 6.1 Human Resource Issues of the Horticulture Industry A3.1 Agriculture Canada, Research Branches A3.2 OMAF - Plant Industry Branch - Horticulture Crop Advisors A3.3 OMAF - Plant Industry Branch - Horticulture Crop Advisors <p>Figures</p> <ul style="list-style-type: none"> 2.1 Sales of Horticultural Products by Province, 1990 2.2 Percentage of Market by Farm Value, 1990 2.3 Real Annual Compounded Growth Rates, Farm Value (1980-1990) 2.4 Ontario's Vegetable Production by Type, 1990 2.5 Ornamental Flower and Plant Sales, Ontario 2.6 Nursery Stock Sales 2.7 Imports of Fresh Mushrooms, Ontario 2.8 Marketed Production of Ontario Greenhouse Vegetables 3.1 Comparison of Age Groups with the Provincial Average 5.1 Enrollment of Horticultural Programs, 1897- 1991
MEMBERS OF THE REGIONAL WORKING PARTY	<p>Employers</p> <ul style="list-style-type: none"> Connon Nurseries Delhaven Orchards Fernlea Flowers Flowers Canada, Ontario Highline Produce JVK Leaver Mushrooms Company Limited Manitree Fruit Farms Wilmount Orchards <p>Unions/Professional Associations</p> <ul style="list-style-type: none"> Horticulture Trades Association/Landscape Ontario <p>Industry Associations and Councils</p> <ul style="list-style-type: none"> Ontario Fruit and Vegetable Growers Association <p>Educators</p> <ul style="list-style-type: none"> Ontario Agricultural College - University of Guelph <p>Government</p> <ul style="list-style-type: none"> Agriculture Canada Employment and Immigration Canada Ministry of Skills Development Ontario Ministry of Agriculture and Food

NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1993 HUMAN RESOURCES STUDY OF THE **HORTICULTURE INDUSTRY** **- PRAIRIE REGION -**

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 63 page detailed report entitled, "<i>Horticulture Industry: Organizing For The Future - Human Resource Issues and Opportunities - Prairie Region</i>", was published in 1993. ▶ The Prairie Regional Working Party was formed in 1990. ▶ The research was undertaken by Ernst & Young.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Growing concern for the human resource problems experienced by the Prairie horticultural industry.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ The research included a thorough review of published reports and data on the issues. ▶ Interviews were conducted with 125 people representing: growers and employees; industry suppliers; educational institutions; sector associations; government representatives; and, other horticulture industry experts and stakeholders. ▶ Three separate provincial working groups were established.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ Most sectors of the industry are affected by downward price pressures as a result of competitive import influences (FTA, NAFTA, GATT). <p>Regulatory</p> <ul style="list-style-type: none"> ▶ Environmental issues connected with greenhouses and nurseries will receive considerable public attention (e.g., recycling water and fertilizers with no leaching). ▶ Concerns for the environment and health will continue to exert pressures on the growers to move to integrated pest management systems or to increased use of biological controls. <p>Technological</p> <ul style="list-style-type: none"> ▶ Trend towards increased mechanization and technology. ▶ The forces driving technology include: globalization of industry and foreign competition; shortage of labour; need to reduce operating costs; improved product quality and consistency; environmental concerns; and need for flexible farm operations. ▶ Advanced technologies are too costly for many operations, however many larger growers have embraced it. ▶ Computers and automation are likely to move operations such as greenhouse floriculture, greenhouse vegetables and mushrooms into a highly controlled mode of operation.

NOTE: Data and information presented above were current at the time of the study.

CHANGE DRIVERS (continued)	<ul style="list-style-type: none"> ▶ Technological change in seasonal sectors is more evolutionary in nature since they rely on family labour supplemented by seasonal labour during periods of peak labour demand. The ability to replace seasonal labour with technology is limited. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ High concentration of young people. ▶ Foreign workers in certain regions are critical to their labour needs.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ Canada's smallest horticulture-producing region accounting for 9% of national production in dollar value in 1990. ▶ The level of sales grew to almost \$240 million in 1990 from \$140 million in 1985. ▶ The level of sales and number of establishments in the Prairies by subsector, in 1990, were: potatoes, \$103 million, 370 growers; greenhouse floriculture, \$44 million, 550 growers; field vegetables, \$32.7 million, 400 growers; mushrooms, \$24.9 million, 11 growers; nursery, \$18 million, 320 growers; greenhouse vegetables, \$8.8 million, 120 growers; and fruits, \$7.5 million, 330 growers. ▶ The region is characterized by large full-time operations and small businesses operated as a supplemental income source with a predominance of family-run operations. ▶ The harsh prairie climate often has the greatest effect on employment opportunities within each sector. ▶ The profile of the horticulture industry is on the rise as the grain growing industry seeks diversification opportunities. ▶ Potato operations are getting bigger but the number of growers is declining. ▶ Strong sales growth is expected to continue in greenhouse floriculture sector but the effects of low cost imported products from Mexico and South America are being felt. ▶ There is little opportunity for growth in the mushroom sector. ▶ Growers in the nursery sector are reasonably optimistic about future growth, and continued gradual expansion is expected. ▶ Additional producers are expected to enter the greenhouse vegetable market while current producers expand.
UNIONIZATION/ PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ Not mentioned.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ The industry in the Prairies employs between 9,450 - 12,025 in total, including seasonal workers; between 2,425 - 3,050 are full-time.

NOTE: Data and information presented above were current at the time of the study.

HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ There are no industry sectors striving to improve their image through sector programs. ▶ There is an inconsistent level of extension services, research and access to training in the Prairies. Alberta is rather fortunate while Manitoba and Saskatchewan producers receive little support. ▶ Numerous management skills courses are available, but are not specific to horticulture. While some growers are unwilling to attend training in its current form and location, other growers may not be aware of the opportunities. ▶ Need to evaluate apprenticeship programs to ensure training continues to meet demand and that it is offered in the best way possible; programs are being evaluated for effectiveness. Need to ensure industry involvement is strong and that the industry feels it has a vested interest in the programs.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ Education infrastructure includes: universities, community colleges, government-sponsored research centres, extension services, productivity enhancement and research support, industry associations and government employment centres. ▶ University of Saskatchewan offers a university-level degree with specialization in horticulture. ▶ The universities of Alberta and Manitoba and Olds College provide horticulture-related programs and courses. ▶ Journeyman landscape technician apprenticeship program and a diploma in horticulture are available through Assiniboine College. ▶ College programs are too short, too general and lacking in practical experience. ▶ There are no effective communication links between industry and education.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ Technology is drastically changing the number and occupational mix of employees at different levels. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ Poor industry image: wages perceived as low; working conditions are difficult; long hours; and limited prospects for long-term satisfying careers. ▶ No significant problem with the supply of seasonal labour, but with the adoption of new immigration laws, the traditional Asian sources of unskilled labour may shrink. Coupled with the growth forecast for many of the sectors, there could well be shortages in seasonal labour. ▶ There is a need to market the industry to potential employees to illustrate the positive aspects of lifestyle and career which all owners/managers and the industry should strive to define. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ Technology is drastically changing: the skill sets required by management; the knowledge and skill sets of existing personnel at both skilled and semi-skilled levels; and the structure and content of curriculum in colleges and universities. ▶ The ability to adopt new technologies and crops will be key to the industry's long term competitiveness and profitability.

NOTE: Data and information presented above were current at the time of the study.

KEY HR ISSUES (continued)	<ul style="list-style-type: none"> ▶ There is a need for training in machinery operation and mechanical skills; There are limited programs not readily available to the workforce, and a long way from Manitoba and Saskatchewan. ▶ All workers will have to become more familiar with integrated pest management techniques. ▶ There is a need to upgrade management, business, HR (employer/employee relations), finance and marketing skills in all sectors; emphasis on HR management skills and marketing skills. ▶ There is a need for high-quality, periodic, sector-specific upgrading courses for growers/owners, managers and skilled employees. ▶ There is a need for expansion of existing apprenticeship and certification programs to raise the training levels and qualifications of skilled workers within the industry to that of other trades; creation of sector-specific programs may be beneficial, particularly in the greenhouse sectors. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ Problems retaining skilled/experienced labour. ▶ Wages are perceived as low, working conditions difficult, hours long, and there are limited prospects for long-term satisfying careers. <p>Other</p> <ul style="list-style-type: none"> ▶ Not mentioned.
RECOMMENDED PRIORITIES FOR ACTION	<ul style="list-style-type: none"> ▶ Upgrade management training; greatest need in HR followed by marketing then finance and accounting. ▶ Enhance technical training and technology transfer. ▶ Strengthen marketing mechanisms. ▶ Enhance industry image. ▶ Enhance apprenticeship/certificate programs. ▶ Ensure and improve applicability of college programs. ▶ Enhance linkages at university level. ▶ Take action to increase retention of skilled/experienced labour. ▶ Ensure availability of seasonal labour. ▶ Improve support to owner/operators. ▶ More regional focus on extension services.
TABLE OF CONTENTS	<ol style="list-style-type: none"> 1. Background and Project Objectives 2. Industry Outlook 3. Structural Initiatives and Training Programs 4. Implications of New Technology 5. Summary of Major Issues and Needs 6. Recommendations <p>Appendices</p> <ol style="list-style-type: none"> 1. Prairie Horticulture Associations 2. Interview List 3. List of Members of the Prairie Regional Working Party 4. Alberta Regional Working Group 5. Saskatchewan Regional Working Group 6. Manitoba Regional Working Group

NOTE: Data and information presented above were current at the time of the study.

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MEMBERS OF THE REGIONAL WORKING PARTY	<p>Employers</p> <ul style="list-style-type: none"> Beck Farms Connery's Riverdale Farms Limited Heritage Mushrooms <p>Unions/Professional Associations</p> <ul style="list-style-type: none"> Landscape Alberta & Nursery Trade Association <p>Industry Associations and Councils</p> <ul style="list-style-type: none"> Potato Growers of Alberta Saskatchewan Association of Horticultural Industries Saskatchewan Fruit Growers Association Saskatchewan Greenhouse Growers Association Saskatchewan Vegetable Marketing & Development Board Western Diversification Program <p>Educators</p> <ul style="list-style-type: none"> College of Agriculture - University of Saskatchewan Olds College - Alberta <p>Government</p> <ul style="list-style-type: none"> Agriculture Canada Alberta Special Crops and Horticulture Research Center Employment and Immigration Canada Manitoba Department of Agriculture Saskatchewan Agriculture and Food

NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1993 HUMAN RESOURCES STUDY OF THE **HORTICULTURE INDUSTRY** **- QUEBEC REGION -**

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 52 page detailed report entitled, "<i>Horticulture Industry: Organizing For The Future - Human Resource Issues and Opportunities - Quebec Region</i>", was published in 1993. ▶ The Quebec Regional Working Party was formed in 1990. ▶ The research was undertaken by Caron, Bélanger, Ernst & Young.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Growing concern for the major problems facing the horticultural industry's workforce. ▶ Fewer unskilled workers will be needed and workers will be required to have a higher level of skills.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ Research and analysis of available documentation and data. ▶ Preliminary interviews with growers and major stakeholders in the industry. Interviews were conducted on an individual basis, and on a group basis in the case of the growers. ▶ Preparation of three case studies to complete the analysis. ▶ Consultation and validation of the study results.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ Trade balance deficits rose more slowly in Quebec than in the rest of Canada. ▶ Businesses in the fruit and field vegetable sectors are encountering serious competition from Canadian and foreign growers; demand for floriculture and greenhouse vegetables should continue to rise by approximately 15% during the coming years; growth in the nursery sector should decrease; mushroom industry in the province has only a 12% share of the Quebec market. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ There is a growing concern for the environment (e.g. pesticide management). <p>Technological</p> <ul style="list-style-type: none"> ▶ Competition and the need to reduce operating costs are two of the main forces driving towards more modern technology. ▶ The very structure of the Quebec horticultural industry slows down the process of acquiring new skills and technologies. There is no program that allows owners to receive compensation for (non-productive) time they or their workers spend in training related to the acquisition of new technologies. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ Not mentioned.

NOTE: Data and information presented above were current at the time of the study.

HORTICULTURE INDUSTRY - QUEBEC REGION - 1993

CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ The Quebec horticulture producing region represents approximately 18% of Canada's total horticulture production. ▶ Horticulture production in Quebec reached a farm gate value of \$415 million in 1990. ▶ Horticulture in Quebec is characterized by many small family businesses. ▶ The industry consists of 7,000 to 8,000 businesses with about 76,000 hectares. ▶ In terms of farm gate value in 1990, the sub-sectors rank in the following order: field vegetables, \$125 million; nursery, \$56 million; floriculture, \$52 million; fruit sector, \$51 million; greenhouse vegetables, \$37 million; sods, \$21 million; tobacco, \$21 million; and mushrooms, \$10 million. ▶ Greenhouse vegetables, floriculture and the nursery sector have had annual increases exceeding 12% each year since 1983; fruits and field vegetables have experienced similar growth of about 5% per year; potato sector has been stagnating since 1983. ▶ The province imports more than it exports. In 1990, imports accounted for \$473 million, exports amounted to \$62 million (fruit was the major import, at 67%) in 1989 nearly 57% of all imports came from the United States. ▶ More than two-thirds of Quebec's horticulture production is located in the Montreal and Quebec regions. ▶ The long-term growth estimate is mixed. Floriculture, nursery and greenhouse vegetables are the most promising sectors. The fruit, field vegetable and mushroom sectors are counting on changes in consumers' habits and on improved competitiveness to replace their Canadian and foreign competitors. The potato sector should not shrink, mainly due to various government income stabilization programs. ▶ The owner is often the only skilled worker in a farm operation. Proper training of farm owners and the lack of additional skilled workers are major problems in these sectors.
UNIONIZATION/ PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ Union des producteurs agricoles (UPA). ▶ Fédération interdisciplinaire de l'horticulture ornementale du Québec (FIHOQ). ▶ Institut de Développements de l'horticulture ornementale du Québec (IQDHO).

NOTE: Data and information presented above were current at the time of the study.

EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ In terms of type of employment the sectors employ: field vegetables and the potato sector (1989) - 1,448 full-time, 220 part-time, 9,610 seasonal (survey did not separate field vegetable workers from potato sector workers where production is much more automated); fruit sector - 602 full-time, 140 part-time, 8,916 seasonal; greenhouse sector (figures unavailable); nursery and turf farms (figures unavailable). ▶ The main types of workers in Quebec's horticulture industry: managers, skilled workers, semi-skilled or seasonal workers. ▶ Age and gender profile of semi-skilled and seasonal workers: for field vegetables, potatoes and fruit, the average age varies, but adults are preferred to youths; in fields, there is a higher share of men in the fields and a higher share of women in factories; for greenhouse vegetables and floriculture, the average age varies, mainly female workers; in the nurseries, average age varies, higher share of men; and for mushrooms, the average age varies.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Insufficient contribution and participation by producers in human resources development and management. ▶ Most programs to integrate native Quebecers who are income security recipients have failed. According to growers these workers are in poor physical health, not very robust, lack motivation and are unreliable. ▶ Immigrants to Quebec are productive, motivated and very often experienced in this type of work. ▶ Foreigners are considered to be excellent workers, despite language barriers and the employer's obligation regarding accommodation, insurance and medical coverage.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ Courses are available covering virtually all subjects that could be taught in the area of horticulture, at the high school, college and university levels. ▶ Many growers have doubts about the quality of the courses or the educators. ▶ Alternative solutions to classroom training are not given enough consideration. ▶ Extension systems of university and government research stations will have to be improved if continued training of growers is to meet the challenges growers will face. ▶ Quebec growers will need help to find the means of compensating for the lack of financial resources to interest skilled workers in horticulture work.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ Many small family businesses. ▶ Owners carry out many related tasks (e.g. administration, marketing, etc.) <p>Recruitment</p> <ul style="list-style-type: none"> ▶ There is a lack of skilled workers in all of Quebec's horticulture sectors. ▶ There are not enough graduates who are sufficiently skilled to meet the industry's needs. ▶ Businesses cannot find a sufficient number of reliable and motivated workers in their immediate areas.

NOTE: Data and information presented above were current at the time of the study.

KEY HR ISSUES (continued)	<ul style="list-style-type: none"> ▶ The industry has a poor image. Seasonal workers, guidance counsellors and other stakeholders (manpower centres, Travail-Québec centres) perceive jobs in this industry as lacking in stability, low-paying and physically demanding with little possibility for career advancement. ▶ Due to poor working conditions, it is difficult to find stable, motivated seasonal workers who are willing to work. ▶ There is a need to market the industry to potential employees to illustrate the positive aspects of lifestyle and career which all owners/managers and industry should strive to define. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ Small business structure of the industry slows down the process of acquiring new skills and technology. ▶ Owners are usually the only people with training, and usually they also carry out many related tasks (administration, marketing etc.) preventing them from being involved in full-time production and in the acquisition of new technology. ▶ Training programs are not necessarily at the cutting edge of technology or are not adapted to the needs of business owners in Quebec. ▶ Skilled workers are rare and must acquire their technical information in foreign countries, mainly the U.S. and Europe. ▶ There is a lack of practical training in educational institutions. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ Problems retaining skilled/experienced labour. <p>Other</p> <ul style="list-style-type: none"> ▶ Not mentioned.
RECOMMENDED PRIORITIES FOR ACTION	<ul style="list-style-type: none"> ▶ Encourage upgrading of the training of skilled workers. ▶ Increase the number of skilled workers. ▶ Develop projects to recruit a large number of seasonal workers for short periods of time. ▶ Motivate seasonal people to work in the horticulture industry. ▶ Maintain the availability and quality of workers. ▶ Reduce moonlighting (farm income supplements their UI or income security benefits). ▶ Determine the real needs in terms of the number of employees to be trained in regular educational institutions and the quality of advanced and continuing education. ▶ Improve continuing education. ▶ Improve practical training in educational institutions. ▶ Promote grower participation in the development and management of HR. ▶ Facilitate access to regular education courses and recognition of previous experience. ▶ Reallocate research and extension budgets to dynamic sectors. ▶ Promote the input and participation of the various stakeholders.

NOTE: Data and information presented above were current at the time of the study.

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NOTE: Data and information presented above were current at the time of the study.

HORTICULTURE INDUSTRY - QUEBEC REGION - 1993

MEMBERS OF THE REGIONAL WORKING PARTY	<p>Employers</p> <ul style="list-style-type: none"> Agri-aide (Laurentides Inc.) Cactus fleuri inc. Fraisière Bourgeois Enr. La champignonnière Kyminc Les vergers Allard Inc. Pépinière Abbotsford Inc. <p>Unions/Professional Associations</p> <ul style="list-style-type: none"> Fédération des producteurs maraîchers du Québec Federation of Quebec Fruit and Vegetable Producers (Processing Vegetables) Service de main-d'œuvre et prévention Maison de l'UPA Syndicat des producteurs en serres <p>Government</p> <ul style="list-style-type: none"> Agriculture Canada CEIC Employment Services Directorate Employment and Immigration Canada MAPAQ Ministère de la main-d'œuvre et de la sécurité du revenu et de la formation professionnelle (DPPMFP)
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NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1995 HUMAN RESOURCES STUDY OF THE LITERARY ARTS AND PUBLISHING INDUSTRY

Note: A survey of the cultural sector labour force was released in 1996.

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 51 page detailed report, entitled <i>"Words in Progress, Human Resources Issues in the Literary Arts and Publishing Industry"</i>, was published in 1995. ▶ The research was undertaken by The Briers Group.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Assess the current environment and trends, including structural and technological trends, and their implications for human resource needs. ▶ Analyze employment in the sector and identify how trends will affect the demand for, and supply of, qualified people. ▶ Examine the extent to which those working in the sector have the necessary skills. ▶ Provide a synthesis of the findings that bring together the human resource needs of the sector with a plan to engage the sector in the process of meeting these needs.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ The study began with an in-depth literature review of the sector, and a large part of the information was updated as we received new data. ▶ The report includes the most recent information, including preliminary unpublished data for 1992-93 from Statistics Canada. ▶ The quantitative data on the size and structure of the sector come mainly from Statistics Canada, but occasionally other sources were used, which are listed in the report. ▶ The Working Group helped draw up a preliminary list of representatives for writers and editors. ▶ As the study progressed, a number of representatives proposed other people to meet with. ▶ Initially, the activity was focused on the main associations in the sector. Interviews were conducted in person and by telephone with people across the country. ▶ Discussions were also held with small groups representing various interests in the sector. In all, over 200 people participated in this process, from all regions of Canada. ▶ No time limits were imposed during the interviews and discussions so as to enable the participants to express all their concerns and everything that was important to them with respect to professional development.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ Increased globalization has and will result in greater access to foreign markets, leading to higher exports. It will also mean increased foreign access to Canadian market. ▶ Competition for advertising dollars has become very competitive. Magazines must make themselves more attractive to advertisers, and can do this by understanding their target market.

NOTE: Data and information presented above were current at the time of the study.

CHANGE DRIVERS (continued)	<p>Circulation management is vital to achieve this.</p> <ul style="list-style-type: none"> ▶ Book publishers will need to focus on the international marketplace, and increase translations beyond English and French in order to thrive. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ Introduction of GST to the price of books and magazines resulted in decreased sales. (Estimates for magazine newsstand sales is a decrease of 30%). ▶ Decreases in the postal subsidy may reduce the ability of small and regional publishers to survive. ▶ Loosening of foreign ownership limitations could result in increased foreign presence. ▶ Tax deductions for advertising are allowed only for advertising in Canadian magazines which results in less foreign-owned publishers. Existence of split-run Canadian editions of U.S. magazines in an attempt to circumvent Canadian content laws threatens Canadian publishers. <p>Technological</p> <ul style="list-style-type: none"> ▶ New end products (Reference books on CD-ROM, books on tape) and the information superhighway will result in a need for publishers to gain expertise in these new media. ▶ Computers and telecommunications have led to downsizing and decentralization, as well as the need for writers and publishers becoming computer literate. It has also led to an increase in the amount of in-house work small publishers can perform. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ Those aged 55 and over show largest increase in time spent reading, and as a greater proportion of the population will be in this age bracket, it represents future opportunities.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ The sector consists of those who write books and articles for magazines, and the publishers of those works. It includes only those whose main line of work is to write, and organizations whose main activity is to publish. ▶ The market is relatively small, heterogeneous, with a large geographic area, and two distinct language groups. It is a very diversified market, where each product is different. ▶ The number of firms involved in book publishing increased from 286 in 1987 to 323 in 1993. Those in magazine publishing were 1,047 in 1993, relatively unchanged from 1987. ▶ There are distinct differences between Anglophone and Francophone publishers such as different markets, publishers, writers, distributors, bookstores, etc. ▶ There is a large foreign aspect in book publishing where 43% of sales in 1993 (\$585 million) were of imported books, and 39% of total net sales were by foreign-owned publishers. Magazine publishing is predominantly Canadian-owned and controlled (due to Income Tax rules). ▶ Book publishing is concentrated as 65 large firms accounted for 86% of total sales in 1992-93. Publishing is concentrated in Ontario and Quebec which have 41% and 38% of the number of firms respectively.

NOTE: Data and information presented above were current at the time of the study.

CHARACTERISTICS OF THE INDUSTRY (continued)	<ul style="list-style-type: none"> ▶ The magazine sector is dominated by a few large firms. In 1992-93, the 12 largest publishers generated 52% of total sales. Ontario firms produced 48% of the magazines while Quebec produced 28%. ▶ For magazine publishers, advertising accounts for 62% of revenues. Recession had a major impact on this revenue source. Companies and advertising agents are becoming much more selective.
UNIONIZATION / PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ Unions and professional associations have established professional development workshops and seminars in response to industry concerns and problems.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ 85% of writers are self-employed and each piece of work is unique. ▶ Increased power and ease of computer use has resulted in a decrease in number of editors, copy-writers, designers and typesetters, with much more of this type of work being contracted out to freelancers. ▶ In 1992-93, the book publishing industry employed 6,987 people full-time; in magazine publishing there were 4,332 full-time employees; but in addition to these there were 1,545 part-timers and 4,112 volunteers. There were also 15,290 writers. ▶ Employment in publishing is concentrated in major urban centres, while there is much greater regional distribution for writers. ▶ The largest employment categories in publishing are marketing and sales, administration, and order fulfilment which account for 65%. ▶ The gender mix for writers is 52.5% male, and 47.5% female. ▶ Incomes in the sector are low compared to other sectors which require comparable skills and responsibilities.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Since the recession, many large firms have reduced staff by 10-20%, and there is little expectation of growth in the foreseeable future for these firms. Smaller companies are optimistic of employment growth potential since computerization has reduced the costs of contracting out work, allowing resources for expansion. ▶ The decision makers need to recognize that the sector will require an improvement in the abilities of the workforce, and must also recognize that training and professional development is an investment and not an expense. ▶ Sub-sector needs more and better ways for independent writers and other freelancers to have access to appropriate professional development.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ There has never been a priority for training and development in the sub-sector, and much of the training has been ad-hoc and on-the-job learning. ▶ There has been an increase in the number and variety of formal education programs at post-secondary institutions. ▶ The seminars and workshops which do exist are well-regarded, however, they are not accessible or known to all (mostly located in major urban centres). There is a recognized need to provide distance learning, and to provide information regarding training opportunities to people in all regions.

NOTE: Data and information presented above were current at the time of the study.

TRAINING AND DEVELOPMENT PATTERNS (continued)	<ul style="list-style-type: none"> ▶ The main problem with current training opportunities is that there is no co-ordination of activities and programs as there is no system of progression and no end-result focus. As a result, programs do not build to anything specific. ▶ There are currently no competency standards in the publishing industry for such occupations as editor, graphic designer, etc. Other jurisdictions have developed councils and boards to administer the process of developing competency standards as well as develop and deliver co-ordinated training programs. The sector has also identified the need to develop standards. ▶ Smaller companies have expressed the need for the development of a cost and risk sharing arrangement for training and professional development programs.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ Computers have led to a great decrease in the amount of manual work being done (e.g. graphic design). Technology has resulted in greater efficiency and productivity, but requires greater skills from the workforce. ▶ Employees in publishing firms need a greater ability to operate computers. ▶ As more freelance and contract work is done, there will be a greater need for good editors and copy-editors. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ The sector has been seen as attractive, and therefore a supply of workers has not been a problem. However, publishers and other employers need to ensure that these people not only have creative talent, but also some general business knowledge as well. ▶ As sub-contracting to independent freelancers increases, diminishing resources has led to a decrease in the number of entry level positions. This could lead to a potential gap of quality entrants because of the expected lack of training and recruiting resources. This could also lead to a decline in publishing standards. ▶ Since it is difficult for small publishers to afford an adequate training program, there is a need for individuals who already possess some basic skills or have a greater ability to acquire the necessary skills. Co-op programs as well as resource sharing for training among smaller companies is seen as a possible solution. ▶ Publishers of magazines need a better knowledge of circulation management, and those with this knowledge will be in high demand in the future. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ Database and circulation management are becoming much more highly skilled procedures, but are not well understood. Publishers have recognized skills shortages in this area, and expect the need for skilled managers in this area to increase. ▶ On-line systems and Internet have resulted in a greater need to understand how to manage and control rights, for both writers and publishers. ▶ Writers need to become more knowledgeable about the business aspects of the sector in such areas as marketing, rights management, taxes, etc. ▶ Managers need to gain a better grasp of the future of the sector, as well as the day-to-day issues of managing. It is felt that managers do not spend enough time with employees.

NOTE: Data and information presented above were current at the time of the study.

KEY HR ISSUES (continued)	Reward/Retention <ul style="list-style-type: none"> ▶ The industry is characterized by individuals who spend many years writing on a part-time basis and/or in conjunction with another job before they can afford to become established as a full-time writer. Writers need the time to learn to become good writers, and to interact with other writers and receive informed critical comment on their writing. ▶ Many writers have expressed desires to attend writers colonies and participate in mentoring programs in order to develop the required skills to become a full-time writer. Other <ul style="list-style-type: none"> ▶ The links between publishers, writers, educational institutions and associations in the sector are quite weak. ▶ There is a limited understanding and appreciation of the unique issues each of the groups face and how they affect the other branches of the sector. There are feelings of suspicion and distrust among the different groups.
RECOMMENDED PRIORITIES FOR ACTION	<ul style="list-style-type: none"> ▶ Form a committee dedicated to HR development. This committee should represent the interests of all participants in the sector concerning HR issues. ▶ Develop a database and directory of all training, education and professional development programs and make it available to all participants in the sector. ▶ Promote and encourage co-operative, mentoring, and distance learning programs. ▶ Improve co-ordination of existing educational, training and professional development programs. ▶ Ensure access to relevant and effective training and professional development. Immediate priorities are: contract negotiating skills and rights management for creators; the art and craft of writing and publishing; sales and marketing; the business-related aspects of being a writer (e.g. self-promotion, marketing, tax, etc); and business management for publishers in the sector (including exporting and management and financing of new product development). ▶ Support initiatives to study or develop standards in the sector. ▶ Ensure that necessary training and information is available on technological developments. ▶ Encourage government to improve and enforce rights legislation and to maintain existing support to the sector.
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NOTE: Data and information presented above were current at the time of the study.

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NOTE: Data and information presented above were current at the time of the study.

**MEMBERS OF THE
STEERING
COMMITTEE**

Employers

La Nuit Blanche
Les Éditions d'Acadie Ltée
McClelland & Stewart Ltd
T.J. Cheney Research Inc

Industry Associations and Councils

Association of Canadian Publishers
Canadian Magazine Publishers' Association

Unions/Professional Associations

Association nationale des éditeurs de livres
Canadian Authors Association
Canadian Society of Childrens' Authors, Illustrators and Performers
Periodical Writers' Association of Canada
The Writers' Union of Canada
Union des écrivaines et écrivains québécois

Educators

Simon Fraser University

Government

Human Resources Development Canada
National Sectoral Council for Culture

NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1997

LOGISTICS LABOUR MARKET INFORMATION

STUDY: PHASE 2

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ “Logistics Labour Market Information Study: Phase 2”, was released in June 1997. ▶ Coopers & Lybrand Consulting undertook the research.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Logistics is becoming a way of developing and sustaining competitive advantage for companies. ▶ The increasing use of technology and the increase in information have changed the requirements for logistics occupations. ▶ The increasing popularity of business practices such as supply chain management have also affected the skills required of logisticians.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ The study was directed by a fourteen member Steering Committee comprising: senior members of the logistics community (spread across logistics functions and industry sectors), representatives from the Canadian Professional Logistics Institute and HRDC. A validation committee was also established. This committee was made up of 28 logistics personnel across Canada. ▶ The first step of the research was to identify the occupations within the logistics sector. This was conducted through a one day workshop format. ▶ A survey of 570 logistics personnel and 100 logistics employers was conducted. ▶ Data was also gathered through five national focus groups involving 33 top ranking logistics practitioners across Canada.
CHANGE DRIVERS	<p>Economic/Market <u>Supply and demand of information :</u></p> <ul style="list-style-type: none"> ▶ Information synchronization with goods flow is a powerful way to reduce cost. Also, information is rapidly becoming a commodity replacing goods. <p><u>Corporate Structure :</u></p> <ul style="list-style-type: none"> ▶ Logistics is being treated as a core business process that crosses several organizational boundaries, pushing logistics functions to executive levels. <p><u>Supply Chain vs Logistics :</u></p> <ul style="list-style-type: none"> ▶ Supply chain issues are inextricably related to business strategies. Linkages between supply chain management and logistics function are becoming stronger. Supply chain dynamics obligate logistics personnel to have more skills in new relationship identification, structuring and management. Network and schedule modeling skills increase in importance and complexity as margins of acceptable error decline. Logistics jobs are increasingly “integrated”; demanding skill sets across traditional logistics functions. <p><u>Globalization and the Emergence of Trade Blocks :</u></p> <ul style="list-style-type: none"> ▶ Globalization has created a geographical extension of supply chains. <p>Technology <u>Information Technology</u></p> <ul style="list-style-type: none"> ▶ Information technology is the immediate driver in the logistics labour market. Information technology gives more importance to the information management tasks, so the logisticians have to think about and operate with information supply chains that interact with goods and service supply chains in a manner

NOTE : Data and information presented above were current at the time of the study.

CHANGE DRIVERS (continued)	that is probably not separable. Information management skill sets will be required throughout organizations and logistics occupations from the bottom to the top.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ Logistics is the business process concerned with the effective and efficient flow of materials and information from source to consumption. Logistics functions include purchasing, distribution, transportation and traffic, customs clearance, international freight forwarding and integrated logistics management. ▶ The sector employed 580,585 people in 1991. They were located in a variety of occupational categories and spread across a number of industry sectors with heaviest concentration in manufacturing, transportation and storage, and wholesale and retail. The majority of workers were in Quebec and Ontario. ▶ 83,5% of the logistics community are male. ▶ Logistics personnel are "knowledge workers". ▶ Logistics professionals are getting younger and have more formal education. The salary level is reasonable, though they could conceivably go higher with increased "density" and valued-added professional presence. On average, women earn 20% less than men, partly explained by the fact that women in the logistics community are, in general, younger, occupy lower positions, and have less formal education than men.
QUALIFICATIONS	<ul style="list-style-type: none"> ▶ The candidate must have a bachelor degree for entry level positions in logistics occupations. People can work their way up to logistics occupations from the "floor". This usually takes about three years. ▶ More than half of the employees at upper/top and middle management level have university degrees compared to 40% of employees at lower management and operational level. ▶ Only 10,7% of logistics employees have a formal degree or certificate in any logistics specialty, 36,1% have a commerce degree and 18,1% have general bachelors' degree.
UNIONIZATION / PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ Logistics occupations, with the exception of some clerical type positions, are typically not unionized. (Unionization not only changes depending on how you define a logistician but also what sector these occupations fall into. For the definitions used in this study unionization is low).
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ Logistics "knowledge" jobs that require higher levels of analytical and multi-logistics functional skill sets are on the rise while lower level data and information processing jobs are on decline. Jobs on the rise include third party logistics providers covering a range of occupational functions from network design and analysis to traditional transportation provision. The decline in the use of Canadian distribution centres as well as steady declines in average inventory levels across most firms echo the reduced need for lower level logistics skills and the increasing need for high level skills such as supply chain management.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ 85% of training that takes place is done during working hours (92% in large firms). ▶ 92% of people who received training indicated that their employer paid for the training.

NOTE : Data and information presented above were current at the time of the study.

TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ The logistics community may be described as possessing a “learning culture” given the extent of training days taken (average of 13 days per year), the level of “voluntariness” of training and the high extent of employer support. ▶ Demand for university education for supervisory levels and above is currently high. Areas of specialisation of current job incumbent must spread over a number of disciplines, with business and logistics specialties dominating. In addition, employers seem willing to accept both professional development and technical training to substitute for university degrees when selecting personnel for management positions.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ Logistics is moving from the backroom to the boardroom. Increased importance of logistics personnel brings about changes to the skill sets required of these people. ▶ Logistics is characterized by a business function cross-over. This means that logistics personnel will demand SKA's that are common, irrespective of main job function, though the extent of demand for particular skills will vary according to depth of involvement in non-main functions. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ Many employers expressed difficulty in finding qualified people to fill logistics positions. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ Approximately 25% of management are under-qualified for their job. ▶ Older professionals particularly, may need access to broader professional development in order to keep up. ▶ Key career transition enablers include professional development in information, business and integrated supply chain management at early stages as well as on-going up-date and integration to more technical logistics training areas. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ There is a recognized “bleeding” talent problem in the logistics community.
IDEAL CAREER PATH	<ul style="list-style-type: none"> ▶ Entry at age 25 at the low management level with a bachelor degree and a three years work experience bringing some combination of skills, knowledge and abilities of immediate use. ▶ Progression will also depend on level of integration with the logistics community through membership in professional associations, which is necessary to conduct networking tasks of use at the next level. Candidates must possess high “tactical” (or technical) skills at the point of movement as well as demonstrate emergent business management, communication HR skills. ▶ After five years of experience “on the ground” across all logistics functions, logisticians can expect a promotion to middle management level. ▶ Progression to the middle level of responsibility will be dependent on demonstration of high aptitude for one or two logistics functions with ability to operate in cross-functional teams. The candidate will also be expected to operate a logistics business unit profitably.

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IDEAL CAREER PATH (continued)	<ul style="list-style-type: none"> ▸ By acquiring more depth in a “home” logistics function, and by acquisition of knowledge about strategic level work required in the next level, as well as, entry into professional peer circles will permit the candidate to move further in a middle management place. ▸ Transition to the upper/top level will be dependent on demonstration of profitable performance, acquisition of post-graduate qualifications in addition to executive skill sets with communication and “visioning” as the most important. Usually people will spend about eight years in middle management before they move up to this level. They also have acquired depth in at least two home functions. ▸ Career paths are not all to the top. Limited availability of positions to move into, in addition to, limitations attached to the candidate can cause “topping out” to occur at either the lower or middle stages. Progression is not expected past lower management without tertiary qualifications. ▸ Create a data platform capable of longitudinal analysis of trends in training, education, skills, etc., in the logistics labour market. ▸ Conduct, on an annual basis, a shorter and more focused personnel mail-out survey on key labour market performance indicators such as professional development, training and further education take up rates, specialisations of learning opportunities, assessment of delivery mechanisms in terms of accessibility and relevance, needs for professional development and training updating in specific core areas and emerging roles of certification regimes in delivery and developments of logistics professional identity. ▸ Examine further, the trend of warehousing jobs. ▸ Focus a group to sketch out the “floaters” workers and their significance. ▸ Create a logistics personnel development cooperative. ▸ Arrange skill and task components in a manner enabling fine distinctions between logistics personnel located in different industry sectors, and with different job structures. ▸ Design a strategic view of the overall logistics career paths to maximize their progression opportunities. ▸ Review and test periodically career path futures against emergent reality to ensure continued relevance of career enhancement mechanism. ▸ Boost professional development programs in key areas especially management of information system and technology, logistics systems integration and supply chain management, business strategy and international trade. ▸ Implementation of a “holding pattern” in the logistics labour market to prevent “bleeding” talent out of the sector.
TABLE OF CONTENTS	<ol style="list-style-type: none"> 1. <u>Introduction and executive summary</u> <ol style="list-style-type: none"> 1.1. Introduction <ul style="list-style-type: none"> Backroom to Boardroom in The 21st Century Structure of this Report The Labour Market Information Study Process 1.2. Executive Summary <ul style="list-style-type: none"> Overall Conclusion and Implications Logistics Labour Market Features Tasks and Skills Training and Education Future Career Paths in Logistics

NOTE : Data and information presented above were current at the time of the study.

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NOTE : Data and information presented above were current at the time of the study.

SUMMARY OF THE 1992 HUMAN RESOURCES STUDY OF THE MARINE TRANSPORTATION INDUSTRY

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 126 page detailed report, entitled "<i>Human Resource Study of the Canadian Marine Transportation Industry</i>", was published in 1992. ▶ The research was undertaken by Peat Marwick Stevenson & Kellogg Management Consultants.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Many employees (crew members) are and will be retiring and the result will be a shortage of skilled workers.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ A literature review and document search was conducted for existing research material and data. ▶ An industry survey was used to develop age profiles, retirement rates and projections for training requirements. ▶ Information was obtained from a variety of sources such as: industry associations; Greenwood's Guide to the Great Lakes; steering committee members; and, other industry representatives and provincial ministries of transportation. ▶ 70 interviews were held with representatives from various companies, crown corporations, government, training institutions, and unions and associations. ▶ 8 focus group sessions were held with a total of 50 employees.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▪ The government's rail subsidy makes it cheaper to use rail rather than water transportation. <p>Globalization</p> <ul style="list-style-type: none"> ▶ Pacific Rim countries are likely to continue to account for an increasing share of Canadian export grain markets, promoting west coast delivery. ▶ Shifts and decline in world markets have had an impact on the marine industry. ▶ Increases in government charges have continued to result in a decline in earnings. <p>Regulatory</p> <ul style="list-style-type: none"> ▪ Maritime Freight Rates Assistance Act provides subsidies to the rail and trucking modes in Atlantic Canada. ▶ Western Grain Transportation Act is the most important rail subsidy now affecting the business of the marine industry. Has been a contributing factor in the shift of Western grain movements from eastern Canada to the Great Lakes/eastern ports. ▶ The primary regulatory body is the Canadian Coast Guard, Ship Safety Branch. ▶ Many standards are maintained, many of which are the result of Canada's membership in the International Maritime Organization (IMO). <p>Technological</p> <ul style="list-style-type: none"> ▪ Technological change has resulted in increased vessel productivity and the reduction of crew size in some sectors.

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CHANGE DRIVERS (continued)	<ul style="list-style-type: none"> ▶ Technological change is slow in Canada due to poor financial performance. ▶ Technological innovations include: closed loading systems, automatic valves, stainless steel holders, electronic charting and pollution monitoring. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ An aging workforce; almost 50% of senior deck officers are over 45 years of age. ▶ By 1995, the overall retirement rate is projected to be: 15% for senior deck officers; 16% for Master Marine certificates; 23% for 1st class engineers across Canada, including a rate of 40% in western Canada.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ This sector includes various sub-groups: bulk freighters, the ferry industry, the marine towing industry, the piloting service industry, government fleets and fishing fleets. ▶ Total revenues in 1988 and 1989 were over \$2.3 billion. ▶ Many small companies and independents, however, also a number of larger companies. ▶ Total vessels owned and operated: 1,873 in 1989; 1,907 in 1988, 2,001 in 1987. ▶ The geographic distribution of establishments is that they are concentrated on the Atlantic coast, along the St. Lawrence, Great Lakes and the Pacific coast. ▶ Recent financial performance in 1988 and 1989 operating expenses of Canadian-domiciled marine carriers exceeded total operating revenues. ▶ The demand for government vessels is largely independent of the level of commercial activity. ▶ The industry is experiencing declining demand for commodities (which accounted for 37% of the tonnage moved in 1989). ▶ The industry is experiencing high fixed costs and, in turn, high load factors.
UNIONIZATION/ PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ Unions/professional associations in the industry include: B.C. Ferry & Marine Workers Union, Canadian Lake Carriers' Association, Canadian Marine Officers Union, Canadian Marine Pilots' Association, Canadian Merchant Service Guild, Council of Marine Carriers, Seafarers' International Union of Canada, and United Food and Commercial Workers International Union.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ Total employment was estimated at 23,000 in 1988 and 1989, including 14,500 vessel crew. ▶ Full-time, contract and shift work used in the industry. ▶ Major occupational groups include: deck officers; engineering officers; engine and boiler room crew; contract hire vessel crew; class 2 for-hire carriers and deck crew. ▶ Workers require academic training, sea service and ability. Many workers possess a Masters Mariner Certificate. ▶ An employment equity imbalance exists: males represent 92% of the on-board vessel employees while females represent 84% of the workers in the steward's department. A total of 17 females are in senior deck officer positions and 39 are in engineering officer positions. ▶ The industry is experiencing fixed lines of progression.

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HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ A federal employment jurisdiction. ▶ In the past, immigration was used as a recruitment strategy as were traditional modes, e.g., colleges and apprenticeship. ▶ Very little HRP activity/capacity regarding recruitment, training/retraining, certification, health and safety standards, etc.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ Sources of basic training/education include: apprenticeship, college and on-the-job training. ▶ Marine cadet programs exist in educational institutions across Canada. In addition, the Canadian Coast Guard (CCG) offers various courses. ▶ International Standards of Training, Certification and Watchkeeping (STCW); Continued Proficiency Endorsement (CPE) certificates; Oil Tanker Certificate for Masters, Chief Engineers, Chief Officers, and others; Chemical Tanker certificate; and selected engine and deck rating certificates are used. ▶ Common training activities include: regulatory training, technology-related training and management training done through on-the-job training and through short courses.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ Emerging skill shortage of people with good electronic skills. ▶ A projected shortage of 10 master chief officer positions in 1990. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ There is a major need to improve recruitment approaches, such as focusing on high school students and establishing of recruitment standards. ▶ The marine industry is a major employer. ▶ A great need to improve employment equity. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ A need to revise certain certification course requirements to ensure they reflect needs specific to Canada. ▶ A need for technical retraining/upgrading. ▶ A need for soft skills development. ▶ A need for management development. ▶ The marine industry has continuous learning infrastructure/support. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ General trends toward improved occupational health and safety standards are due primarily to major marine accidents, e.g., <i>Exxon Valdez</i>, and to efforts of the Marine Safety Advisory Council. ▶ Working conditions include long periods away from home, shifts, outdoor and remote work. ▶ Major need for ongoing human resource data as the retirement rate is increasing and there is a rapid decrease in the number of skilled workers. <p>Other</p> <ul style="list-style-type: none"> ▶ Not mentioned.

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RECOMMENDED PRIORITIES FOR ACTION	<p>Establishment Level</p> <ul style="list-style-type: none"> ▶ Career development programs should be established. ▶ Institutions offering training should require that all instructors obtain at least one course in adult education techniques. <p>Sectoral Level</p> <ul style="list-style-type: none"> ▶ Recruitment standards should be established on a sector-by-sector basis. ▶ The National Marine Training Board should begin the process of rationalizing the delivery of marine training in Canada. ▶ The Canadian Council on Marine Training should be replaced by a National Marine Training Board; the Board should establish committees to deal with specific training issues. ▶ The Canadian Coast Guard, Ship Safety Branch (CCG) should upgrade the course syllabus and content for officer certification in consultation with the industry. ▶ The CCG should continue its role as examiner, auditor, and accreditor to ensure the maintenance of national standards. ▶ The National Marine Training Board, in conjunction with the Federal Government, should develop a funding mechanism based on a national formula for more effective use of training Funds.
TABLE OF CONTENTS	<p><u>Executive Summary</u></p> <ul style="list-style-type: none"> A. Study Background B. The Canadian Marine Industry C. Vessel Crew D. Addressing the replacement challenge E. Training Requirements F. Future directions G. Implementation strategy <p>1. <u>The Marine Industry in Canada</u></p> <ul style="list-style-type: none"> A. Industry structure B. Size of the industry C. Factors affecting the marine transportation industry D. Implications for the industry <p>2. <u>Human Resources Profile</u></p> <ul style="list-style-type: none"> A. Marine industry human resource study survey results B. Marine industry age profile C. Age and projected retirement rates of senior deck officers D. Age and projected retirement rates of engineering officers E. Age and projected retirement rates of employees other than senior officers F. Female representation in the Canadian marine transportation industry G. Summary <p>3. <u>Addressing the Replacement Challenge</u></p> <ul style="list-style-type: none"> A. Marine Certification B. Cadet and apprenticeship programs C. Sea service D. A proposed progression strategy E. Projected training needs F. Other short-term action required

NOTE: Data and information presented above were current at the time of the study.

TABLE OF CONTENTS (continued)	<ol style="list-style-type: none"> 4. <u>Training to Meet Industry Needs</u> <ol style="list-style-type: none"> A. Regulatory training B. Technology-related training C. Management training D. Other training needs E. Projected training needs F. Course content and instruction 5. <u>A National Approach To Training</u> <ol style="list-style-type: none"> A. Company training programs B. A co-operative approach C. Funding for training D. Longer-term objectives 6. <u>Implementation Strategy</u> <ol style="list-style-type: none"> A. Organizational structure B. Functions of the Board C. Powers of the Board D. Objectives of the Board E. Industry Initiatives Appendices <ol style="list-style-type: none"> A. Steering Committee Members B. Survey Respondents C. Individuals Interviewed D. Training Information
LIST OF TABLES/ GRAPHS	<ol style="list-style-type: none"> 1. <u>The Marine Industry in Canada</u> <ol style="list-style-type: none"> 1. Number of Vessels Owned and Operated by Canadian-domiciled Carriers 2. Marine Skilled Labour Force by Occupational Group 3. Freight Traffic Handled in Canada, by Mode, 1985, 1988 and 1989 4. Marine Traffic Handled in Canada, 1985, 1988 and 1990 5. Regional Overview of Domestic Shipping Activity 6. Modal Share of Intercity Passenger Travel in Canada, 1985, 1988 and 1989 2. <u>Human Resources Profile</u> <ol style="list-style-type: none"> 7. Vessel Crew by Region - Sample Results 8. Estimate of Active Crew members 9. Age Profile - All Occupations Canada 10. Projected Retirements to 1995 - Senior Deck Officers 11. Age Distribution of Senior Deck Officers 12. Engineering Officers - Canada Wide Age Profile 13. Engineering Officers - Canada Wide Retirement Profile to 1995 14. Engineering Officers 15. Age Distribution of Employees Other Than Senior Officers 3. <u>Addressing the Replacement Challenge</u> <ol style="list-style-type: none"> 16. Regulatory Certification Qualification Requirements 4. <u>Training to Meet Industry Needs</u> <ol style="list-style-type: none"> 17. Training Requirements by Region 5. <u>National Approach to Training</u> <ol style="list-style-type: none"> 18. Estimated Cost of Equipment On Loan to Marine Institutions

NOTE: Data and information presented above were current at the time of the study.

**MEMBERS OF THE
STEERING
COMMITTEE****Employers**

B.C. Ferries
Marine Atlantic

Unions/Professional Associations

B.C. Ferry & Marine Workers' Union
Canadian Marine Officers Union
Seafarers' International Union of Canada
United Food and Commercial Workers International Union

Industry Associations and Councils

Canadian Lake Carriers Association
Canadian Merchant Service Guild and Canadian Marine Pilots' Association
Council of Maritime Affairs (COMA)
Council of Marine Carriers

Government

Canadian Coast Guard
Employment and Immigration Canada
Marine Atlantic

NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE HUMAN RESOURCES STUDY OF THE RED MEAT PROCESSING INDUSTRY

BACKGROUND INFORMATION	The study, completed in 1998, addresses the HR challenges facing Canadian beef and pork packers and processors as well as the unions and their members.
IMPETUS FOR STUDY	Globalization, industry rationalization and strained management relations are affecting the competitiveness of the Canadian meat processing industry.
APPROACH AND METHODOLOGY	A 30 member steering committee directed the study. Various research methodologies were conducted including a technology symposium, focus groups and interviews with all key stakeholder groups.
CHANGE DRIVERS	<p>Economic/Market: High levels of rationalization</p> <p>Globalization: The industry faces substantial opportunities to expand its export business. The majority of the growth enjoyed by this sector has occurred through exports to foreign markets; specifically United States and Asia.</p> <p>Regulatory: HACCP is playing a key role in how firms will compete and how they must change the way they use their human capital. The devolution of inspection fees to the packers and processors represents another significant challenge.</p> <p>Technological: The committee identified four types of technology that will influence the management of human resources and competitiveness of the industry in Canada. They include:</p> <ul style="list-style-type: none"> · Technologies for improved labour productivity · Technologies for meat safety management · Technologies for the assessment of quality attributes: and · Technologies for value added products <p>Social/Demographic: Domestic demand is showing very little growth. The majority of growth in demand is coming from global markets</p>
CHARACTERISTICS OF THE INDUSTRY	<p>The industry is dominated by small employers with only 7.5 % of establishments having over 200 employees.</p> <p>Data suggests that the industry hires predominately young male workers with relatively low levels of education. New immigrants form the largest labour pool from which the industry draws.</p>
UNIONIZATION	The Industry is heavily unionized (57%). Workers are primarily organized through the United Food and Commercial Workers (UFCW).

NOTE: Data and information presented above were current at the time of the study.

EMPLOYMENT PATTERNS	The number of employees in the red meat processing industry has gradually recovered from a 5% decline in the last recession, increasing from 31,905 to 33,271 between 1991 and 1995. Preliminary data indicate that employment fell somewhat to 32,672 in 1996. However, industry sources confirm that employment has recovered and has actually grown between 1997 and 1998.
HR MANAGEMENT PRACTICES	HR management in this industry is, for the most part, based on traditional methods. Trends in other industries towards employee involvement, skills enhancement, and team-based production are not evident in the industry with only a few exceptions.
TRAINING AND DEVELOPMENT PATTERNS	Worker training is minimal and what is offered is primarily delivered internally "on the job". Unions have negotiated training trust funds into collective agreements, however due to poor labour-management relations these have not be used to their fullest potential.
KEY HR ISSUES	Recruitment and retention are problems, particularly for production workers, but also for skilled trades, food safety, and research and development personnel. Turnover and absenteeism are major problems particularly in slaughter and packing operations Health and safety issue continue to plague the industry. While workers' compensation rates have fallen in the recent years they remain unacceptably high. New equipment and emphasis on food quality highlight the need for developing the foundation skills of literacy, numeracy, English as a second language and the basic knowledge of computers.
RECOMMENDED PRIORITIES FOR ACTION	Overview of national tactical recommendations: <ul style="list-style-type: none"> · Develop and implement training in ergonomics · Improve the work environment and labour-management relations · Improve HACCP implementation · Enhance training programs · Improve employee recruitment and orientation
TABLE OF CONTENTS	Executive summary Introduction Industry Profile The Business Environment Technology Workforce Profile Human Resources Practices and Issues Training Needs and Program Availability

NOTE: Data and information presented above were current at the time of the study.

	<p>A Framework for the Development of a Human Resources Strategy</p> <p>Appendix A: Education and Training Programs of Relevance to the Red Meat Industry</p> <p>Appendix B: List of Site Visits and Interviews Conducted by Peartree Solutions and PricewaterhouseCoopers for Human resource Study of the Red Meat Industry</p> <p>Appendix C: References</p> <p>Appendix D: Danish Meat Trade College</p> <p>Appendix E: Australian Meat Industry Food Safety Program Meat Research Corporation, Australia</p> <p>Appendix F: A SWOT analysis of Canada's Red Meat Processing Industry</p> <p>Appendix G: Sample Questionnaires of Survey undertaken by the George Morris Centre</p>
MEMBERS OF THE STEERING COMMITTEE	<p>OLDS COLLEGE</p> <p>MEAT & POULTRY PRODUCTS DIVISION, AGRICULTURE CANADA</p> <p>ONTARIO MINISTRY OF AGRICULTURE, FOOD AND RURAL AFFAIRS</p> <p>UNITED FOOD & COMMERCIAL WORKERS INTERNATIONAL UNION</p> <p>OLYMEL</p> <p>FÉDÉRATION DU COMMERCE INC. (CSN)</p> <p>ONTARIO INDEPENDENT MEAT PACKERS AND PROCESSORS</p> <p>LAKESIDE PACKERS</p> <p>MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION</p> <p>CANADIAN PORK COUNCIL</p> <p>CANADIAN MEAT COUNCIL</p> <p>CARAVELLE FOODS</p> <p>QUALITY MEATS</p> <p>ALBERTA AGRICULTURE, FOOD AND RURAL DEVELOPMENT</p> <p>HUBB PACKERS</p> <p>CANADIAN CATTLEMAN'S ASSOCIATION</p> <p>CSD</p> <p>MAPLE LEAF PORK</p> <p>PILLER SAUSAGES & DELICATESSENS</p> <p>INTERCONTINENTAL PACKERS</p> <p>UNI-VIANDE</p> <p>DELFT BLUE INC</p> <p>BILOPAGE</p> <p>VIANDES EXPERTS 1994 INC.</p> <p>CANADIAN COUNCIL OF GROCERY DISTRIBUTORS</p> <p>CENTRE DE RECHERCHE INDUSTRIELLE DU QUÉBEC (CRIQ)</p> <p>TROCHU MEAT PROCESSORS</p> <p>J. M. SCHNEIDER INC.</p> <p>CINTECH AA</p>

NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1993 HUMAN RESOURCES STUDY OF THE MINING INDUSTRY

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 80 page detailed report, entitled "<i>Breaking New Ground: Human Resource Challenges and Opportunities in the Canadian Mining Industry</i>", was published in 1993. ▶ The research was undertaken by Price Waterhouse.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Concern regarding availability of engineers as well as concern for potential skill shortages at all levels.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ The study is based primarily on stakeholder participation and secondly on the scope of consultations with employees, managers, educators and trainers, technology experts, and representatives from unions, industry associations and governments. ▶ The purpose of the sector study is to obtain findings that reflect the views of industry stakeholders, and to encourage the latter to commit themselves to act. ▶ The study also serves to promote a global understanding of the industry, so that the stakeholders can jointly identify human resource issues and find solutions. ▶ The approach included a detailed and rigorous analysis of quantitative and qualitative information collected through diverse methods. ▶ In-depth review and study of articles, books and documents published about the industry. ▶ In-depth interviews by telephone or in person, and establishment of focus groups, bringing together some 350 stakeholders. ▶ A two-step Delphi analysis was conducted with a panel of twelve technology experts from industry associations, research agencies, universities, government and from the industry itself. ▶ First the experts studied the significance of certain state-of-the-art technologies, and then they attempted to evaluate the impact of these technologies on human resources. ▶ Visits were made to 14 mines across Canada in order to talk with the workers and observe their work environments. Coal, industrial ore, precious metal and base metal mines were visited. ▶ An analysis was undertaken of the data on employment and on enrollments from Employment and Immigration Canada (EIC) and Statistics Canada, as well as data on employment and production from Energy, Mines and Resources Canada. ▶ A mail-out survey was sent to 590 mines, mills and companies involved in concentration, smelting, refining and exploration in Canada. The survey focused on employment and training.

NOTE: Data and information presented above were current at the time of the study.

CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ There is increasing global competition. ▶ Exploration and development investment is increasing in other countries relative to Canada. ▶ Mine closures have exceeded new openings. ▶ Base metal reserves are low but there is limited new development. ▶ The economic recession put a damper on demand for materials. ▶ The opening of eastern Europe has increased supply of some commodities, reducing world prices. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ The proliferation of environmental regulations limiting exploration and development, and extending the time required for development, thereby increasing risks on investments. ▶ Public interest advocacy is on the rise. ▶ The requirements for land reclamation after a mine closure add to costs and change the economics of development. ▶ There are concerns regarding security of tenure and access to land, as related to native land claims and to land used for parks. <p>Technological</p> <ul style="list-style-type: none"> ▶ Technological advances in exploration, mining and milling include: computerized systems, intelligent supervisory control systems, laser technology, biotechnology and materials technology. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ There has been increasing public interest in environmental protection.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ A very cyclical primary resource sector but includes some processing. ▶ Includes firms involved in mineral exploration, extraction of ore, milling/concentrating, smelting/refining of metals, and processing of industrial minerals. ▶ Accounts for 12.3 percent of Canada's total exports, 1.1 percent of employment and 2.2 percent of gross domestic product. ▶ Canada remains among the five leading mineral producing countries in the world, with large areas not yet fully explored. ▶ Prices are set internationally and returns are very sensitive to the Canadian dollar. ▶ Many smaller firms are concentrated in exploration where as many larger firms are vertically integrated. ▶ Very capital intensive, therefore costs of financing are a major factor. ▶ There are more than 325 producing mines in Canada, and many processing operations. ▶ Canada is a world producer and exporter of many minerals and metals such as gold, nickel, silver, aluminum, and coal. ▶ There are mines/mills in every province, but the largest proportion of employment is in Ontario, Quebec and B.C..

NOTE: Data and information presented above were current at the time of the study.

CHARACTERISTICS OF THE INDUSTRY (continued)	<ul style="list-style-type: none"> ▶ The industry is a significant employer in remote areas. ▶ Mining technologies vary according to the geology. ▶ Individual mines are distinctively designed. ▶ Broad distinctions exist between soft and hard rock, open pit and underground mining. There are also similar variations in milling technology depending on the minerals. ▶ Apart from exploration activity, only major vertically integrated mining firms engage in significant R & D. ▶ There are relatively few major equipment suppliers in the world. ▶ Most technological advances are incremental adaptations of technologies from other fields. ▶ Key success factors: low unit cost production derives from relatively high grade ore; the operation must be accessible and safe.
UNIONIZATION / PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ Approximately 51% of the workforce (excluding managerial and administrative staff) is unionized. ▶ The largest union is the United Steelworkers of America with 54% of the unionized workforce.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ Employment totals are approximately 105,000. ▶ Predominantly full-time employment, and contract employment in supporting services, such as exploration. ▶ Shift work is common, as operations run 24 hours. ▶ Occupations in exploration, mining, milling and smelting separate into operations/production, trades, technical, professional and managerial functions. Smaller work groups in exploration reduces the need for supervisors. ▶ The workforce is predominantly white, male. ▶ The workforce is aging faster compared to all industry. In 10 years, most people will be more than 45 years old. ▶ Career paths tend to be occupation specific as operators may be posted to one piece of equipment/area or may rotate. The lines of progression are not fixed as some operators have moved into technician positions in milling, and operators can also bid on apprenticeship positions in mine maintenance. ▶ Management positions are drawn from ranks of mining engineers. ▶ There is low turnover, and little recruiting due to fewer new mines.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Recruitment is tied to mining cycle as start-ups often recruit from operations which are closing and also bring in people from other operations in the same firm. ▶ Human resources (HR) management at the local level and at headquarters often had an industrial relations background, but this is changing to broader HR. ▶ There is good production planning and scheduling so there is capacity to use it in long-term human resource planning.

NOTE: Data and information presented above were current at the time of the study.

TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ The professional staff is primarily engineers, trained in university engineering programs, often but not solely in mining engineering. ▶ Mining engineering programs are under pressure due to reduced enrollments. ▶ There is concern that mining engineering programs are becoming too theoretical, and that they do not encompass the practical and people skills required for successful performance. ▶ Technical institutes and community colleges provide training for some technicians and technologists while other technicians learn through on-the-job training. ▶ There is a need to enhance metallurgical training. ▶ Operators all learn through on-the-job training, in which there is a very high emphasis on safety. ▶ Experienced operators become trainers. ▶ Safety and new technology are drivers for training. ▶ There is some apprenticeship in maintenance trades but some employers tailor programs to meet their specific needs and do not require apprentices to obtain certification. ▶ Industry associations do provide continuing education, including local seminars. ▶ Expenditures are comparable to those of other sectors, and are generally effective in the development of its people. ▶ Downturn in the economy has caused a decline in the extent of training activity, and there is concern about an erosion of the training infrastructure.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ Multi-skilling and cross-training are conducted at about 54% of operations, predominantly within an occupational group, but operational cross-training is much more common than trades. Resistance to multi-skilling remains significant, which raises concern about lack of depth in the skill. ▶ At the trades level, there is blurring of traditional occupational boundaries, and upgrading is required. ▶ Higher demand occupations include: environmental occupations, instrumentation technology, metallurgical technology, IT occupations, geologists and geophysicists. Operators, labourers and supervisors are expected to decline. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ A shortfall of engineers is unlikely. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ Decentralization of training to mines and mills is both a plus and a minus as there is a culture of workers training workers, and it tends to lead to a myopic sense of operation or even the sub-operation. Also, there is a lack of thorough analysis of strategic training needs. ▶ The first generation of automated mill operators trained on-the-job from people who already knew the mill, but the next generation will require more theoretical technical training.

NOTE: Data and information presented above were current at the time of the study.

**KEY HR ISSUES
(continued)**

- ▶ There is a need for recurrent training to keep up with technological and regulatory changes.
- ▶ Training for new technology needs to consider more than impact on immediate workers.
- ▶ Occupational safety and health is important but not identified as problem area. WHMIS training took a lot of training resources, and also certification in Ontario will take training resources.
- ▶ On-going development is generally reserved for professional and managerial staff in which travel absorbs relatively large proportion of funds.
- ▶ Some initiatives in distance learning could be expanded.
- ▶ There is lack of data on training costs, so training evaluation makes it more difficult to build the case for training as an investment.
- ▶ In operations/production occupations, higher levels of basic skills, including literacy, numeracy, science and computer skills are required. There is concern that limited basic skills hinders adoption of new technologies/techniques.
- ▶ At all levels, there is increasing demand for communication and problem-solving skills.
- ▶ In general, there is increasing demand for higher educational qualifications at operations/production, trades and technical levels.
- ▶ The industry has made very good use of the Industrial Adjustment Service (IAS) in mine closures, and has learned how to downsize well, but it needs to promote that learning more widely.
- ▶ Downsizing has resulted in a decline in apprenticeship training.
- ▶ Available apprenticeship training and trades programs are not well suited to the needs of the mining industry, as remote locations of many mines make upgrading programs at colleges inaccessible.

Reward/Retention

- ▶ Increasing worker concern about mobility and transferability, and also concern that operators have limited transferable skills to take when an operation closes.
- ▶ The image of the industry is becoming important to attract youth entrants.

Other

- ▶ The industry has acknowledged to be white/male dominated but it has relatively little concern for employment equity, and the pressure from Aboriginal communities near mining sites is increasing.
- ▶ There is an increasing need to deal with Aboriginal communities for access to land.

NOTE: Data and information presented above were current at the time of the study.

<p>RECOMMENDED PRIORITIES FOR ACTION</p>	<ul style="list-style-type: none"> ▶ Provide on-going training and development for all employees such as distance education. ▶ Develop an approach to basic academic skills upgrading that meets the needs of the workforce. ▶ Prepare the workforce for dislocation and adjustment. ▶ Develop and implement national standards for operations/production occupations. ▶ Encourage trades training (e.g., apprenticeship training and trades upgrading). ▶ Address the need for workforce diversity by implementing employment equity, and developing partnerships with Aboriginal communities. ▶ Promote industry-education partnerships. ▶ Look for ways to hire more summer students and provide more co-op placements.
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NOTE: Data and information presented above were current at the time of the study.

<p>MEMBERS OF THE STEERING COMMITTEE</p>	<p>Employers Cambior Inc. Comico Ltd. Falconbridge Ltd. Inco Ltd. Luscar Ltd.</p> <p>Industry Associations and Councils The Mining Association of Canada Canadian Institute of Mining, Metallurgy and Petroleum</p> <p>Unions/Professional Associations United Steel Workers of Canada</p> <p>Educators British Columbia Institute of Technology McGill University</p> <p>Government Department of Career Development and Employment Employment and Immigration Canada Energy, Mines and Resources Canada Ministry of Advanced Education Training and Technology, BC Ministry of Education and Training, Ontario</p> <p>Other Stakeholders Mistassini Reserve Chippewas of Rama First Nation</p>
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NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1997 HUMAN RESOURCES STUDY OF THE MOTOR CARRIER PASSENGER INDUSTRY

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 90 page detailed report, entitled "<i>Human Resources Study of the Canadian Motor Carrier Passenger Industry</i>", was published in June 1997. ▶ A 17 page summary report and 54 page appendices were also published in June 1997. ▶ Price Waterhouse, Management Consultants, prepared the report.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Recognizing that the skills, quality and management of its human resources are vital to its continued success, the motor carrier passenger industry decided to conduct a major study to identify the industry's human resource challenges and priorities, and to craft strategies to address them.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ The study was structured into 5 modules each dealing with a specific set of issues and concerns and was conducted between July 1996 and May 1997. ▶ Over 30 interviews were conducted with steering committee members, subject matter experts, employers, union representatives and international contacts. ▶ Over 50 site visits were conducted throughout Canada with urban transit, intercity, school bus and chartered transportation service providers. ▶ Plus 100 interviews were arranged with owners, human resource directors, trainers, employees and union representatives. ▶ Case studies of six motor carrier passenger providers were conducted to profile human resource practices and challenges facing the industry. ▶ 32 focus group interviews with managers, operators (drivers), mechanics, customer service agents and union representatives were held. ▶ A telephone survey involving 479 owners, managers and human resource directors covering the four industry sub-sectors was administered. ▶ A supplementary review of secondary sources, database searches and a gap analysis were completed in March 1996
CHANGE DRIVERS	<ul style="list-style-type: none"> ▶ Factors affecting Intercity - provinces are relaxing or streamlining the regulation of intercity buses and charter services. ▶ Factors affecting Urban - provincial and municipal governments are reducing the funding that they make available to the urban sector. ▶ Factors affecting School - increasing amalgamation of school boards are forcing school service providers to restructure. <p><u>The following change drivers affect all sub-sectors</u></p> <p>Economic/Market</p> <ul style="list-style-type: none"> ▶ There has been a decrease in market share for bus services as more people choose to drive automobiles and rely on alternative forms of transportation. <p>Technological</p> <ul style="list-style-type: none"> ▶ Technology can now produce more comprehensive data on customer expectations and usage patterns, prompting the redesign of services. ▶ Technology that can improve operational, customer service, safety and design specifications is now readily available. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ Declining rural population.

NOTE : Data and information presented above were current at the time of the study.

CHANGE DRIVERS (continued)	<ul style="list-style-type: none"> ▶ New generation of students who will require transportation. ▶ New work arrangements that do not fit the typical 9-5 workweek. ▶ A large proportion of Canada's population is aging and more disabled Canadians rely on motor carrier passenger transportation. ▶ Ecological pressure on individuals, to use mass transportation, is expected to rise.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ The motor carrier passenger industry can be divided into six sub-sectors: urban transit; scheduled intercity; school transportation providers; charter and sightseeing bus carrier; limousine and bus services to airports and rail stations; and ancillary bus services. This study focuses primarily on the first four sectors. ▶ Many companies offer "blended" services (services in more than one sector); and school transportation includes both public and private service providers. ▶ According to Statistics Canada, there were 878 establishments in Canada who reported income in excess of \$250,000 in 1995. Operating revenue totaled \$5.244 billion and expenses \$4.795 billion. ▶ The Canadian Business Register approximates the actual number of intercity establishments as 204, charter establishments as 316 and 1,599 school providers in 1996. The majority does not report income over \$250,000 and as such are not included in Statistics Canada's figures. ▶ Urban transit was the largest sector in 1995, with 68.3% of the total operating revenue. ▶ According to the Canadian Business Registry, the industry is well represented across Canada, though intercity service remains highly regional. ▶ Market share has been declining in favor of automobiles. ▶ The industry is a customer for a wide range of services and products from suppliers and manufacturers of capital machinery and equipment. There are nine major suppliers within the industry.
UNIONIZATION / PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ The largest national unions within the industry are Amalgamated Transit Union (ATU), Canadian Union of Public Employees (CUPE) and Canadian Automotive Workers (CAW). ▶ Independent Canadian Transit Union (ICTU), and Confédération des Syndicats Nationaux (CSN) are regional unions in the industry. ▶ The industry has an unionization rate of 56% according to 1997 figures from Statistics Canada. ▶ The highest unionized sector is urban transit at 81%, followed by intercity, 44%, and school transportation, 41%. The charter sector has the lowest unionization level within the four primary sectors of the industry.

NOTE: Data and information presented above were current at the time of the study.

EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ According to Statistics Canada the industry employed approximately 78,413 people in 1995; this figure includes employees in transportation-related activities as well as non-specific capacities. This figure also includes ancillary service providers, whose primary function is not passenger transportation. ▶ The industry has fairly stable employment patterns; there was a decline between 1991-1995 due to the recession, in 1996 employment rebounded. ▶ There is significant fragmentation among numerous smaller establishments. 96.3% of establishments count fewer than 100 employees. ▶ A little more than half of the employees are between the ages of 25-44 (56.8%) and there are very few new entrants. One third of employees are ages 45-64 (37.4%) and will be heading into retirement over the next 10 years. These figures reflect the high employment stability, low turnover and low recruitment levels. ▶ 67% of the total industry workforce is male. ▶ Aboriginal peoples account for 3% of the total workforce and other visible minorities for 9.1%. ▶ Generally speaking, the motor carrier passenger industry does not have strict educational qualifications and high school diploma is often enough. In fact, 41.6% of the workforce do not have secondary school diplomas. ▶ Many organizations promote from within; this allows senior employees to advance within their company to management positions. ▶ Major occupations include: operators, supervisors and inspectors, maintenance and mechanics, management, professionals, administrative staff, marketing and customer service.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Only one third of the operations surveyed had a strategic human resource development plan in place. ▶ Very little has been invested in human resource programs. ▶ Limited recruitment has occurred over the last 5 years due to reductions in funding and low turnover. ▶ There is a significant lack of "applicant appeal" for this industry, which is contributing to low recruitment. ▶ There is a growing HR trend within the industry to focus on interpersonal skills and customer service orientation as well as technical qualifications. ▶ Early retirement packages, wage roll backs, layoffs and reduction of services and routes are examples of cost measures the industry may take before downsizing is considered. Downsizing will usually occur in the administrative and clerical support positions first.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ Training has usually been job specific and conducted in-house to meet mainly operational demands. ▶ Due to in-house training, links with educational establishments are rare. ▶ Refresher courses are made available through the companies. ▶ Training has started to look at teaching employees how to foster a positive workplace environment, improve communication and personal skills and how to deal with specific safety concerns – in addition to their technical skills. ▶ Carrier associations are increasing their role in the co-ordination of sector training and development.

NOTE : Data and information presented above were current at the time of the study.

KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▸ Greater commitment to change required from employees. ▸ Foster more collaboration between employers and labour organizations. ▸ Industry must emphasize the strategic planning focus in human resources management; more investment is required. ▸ Improve communication between management and employees in order to create a positive relationship and to build commitment. <p>Recruitment</p> <ul style="list-style-type: none"> ▸ Enhance the image and professionalism of drivers. ▸ Managing an aging workforce that deals with more stress, physical problems, absenteeism and mass retirement over the next 10 years. ▸ The industry must recruit and retain employees with a balance of technical and interpersonal skills. ▸ Reduce Absenteeism. ▸ Address employment equity for women and visible minorities. <p>Training and Development</p> <ul style="list-style-type: none"> ▸ Train managers and union representatives to respond effectively to change and to co-operate in revising and improving customer service. ▸ Training should help employees develop innovative interpersonal and organizational skills as well as technical. ▸ The industry should ensure those employees upgrade basic skills such as reading and writing. ▸ Employees want to see more of an emphasis on the safety of drivers. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▸ Greater effort required selecting and recruiting new entrants who are well suited to the demands of a professional driver.
RECOMMENDED PRIORITIES FOR ACTION	<ul style="list-style-type: none"> ▸ Industry stakeholders should meet to review the establishment of a national human resource sectoral council. Its mandate should focus on initiation and co-ordination of projects and programs to successfully deal with human resource issues of the industry. ▸ Existing successful industry endeavors should be shared among all service providers of the industry. ▸ Carrier associations should develop and provide the framework, tools, training and support required by smaller service providers to develop their own strategic human resource plan. The learning process must be seen as on going. ▸ The industry should selectively develop partnerships with education providers to develop and sustain information technology, technical expertise and interpersonal skills. ▸ The industry should adopt a concerted, inter-sectoral skill recognition process for service provider employees who successfully complete training programs. ▸ Industry stakeholders should develop and adopt a framework of reference with precise guidelines to assist service providers, employees and union representatives in understanding and implementing the transition process in the workplace. ▸ Each service provider should assess the impact of the major factors of change identified in this study in its own organization. Opportunities and threats identified and corresponding strategies defined for future implementation. ▸ Employees and union representatives should be involved in the strategic

NOTE: Data and information presented above were current at the time of the study.

RECOMMENDED PRIORITIES FOR ACTION (continued)	<p>planning process; their understanding and commitment are prerequisites for its eventual implementation.</p> <ul style="list-style-type: none"> ▶ Industry service providers should study and build on the four-part strategy recommended in the report prepared by the Joint Labour Management Task Force on Transit Competitiveness. ▶ Where they do not already exist, non-unionized service providers should establish employer-employee committees. ▶ Traditional internal written communications should be supported by intensified face-to-face communications among all levels within organizations. ▶ Service providers should provide continuous coaching and support to improve communication and interaction among everyone. ▶ Future orientations endorsed by individual providers should lead to the development of a strategic human resource plan which will support the successful implementation of the firm's overall corporate vision. ▶ Service providers should assess their functional human resource requirements in the light of anticipated demand. Alliances with educational institutions, sectoral organizations and provincial governments may provide medium and smaller size firms with the expertise and support needed to accurately forecast their human resource requirements.
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NOTE: Data and information presented above were current at the time of the study.

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MEMBERS OF THE STEERING COMMITTEE	Employers London Transit OC Transpo BC Transit Calgary Transit Toronto Transit Commission Autocars Orléans Express Inc. Greyhound Lines of Canada Ltd. Acadian Lines Limited Unions Amalgamated Transit Union Canadian Union of Public Employees Industry Associations and Councils Alberta Student Transportation Advisory Council Ontario School Bus Association Canadian Bus Association Canadian Urban Transit Association Association du transport écolier du Québec Government CAMO-Route Inc. Human Resources Development Canada Educators Mohawk College of Applied Arts and Technology University of Calgary

NOTE : Data and information presented above were current at the time of the study.

SUMMARY OF THE 1995 HUMAN RESOURCES STUDY OF THE MUSIC AND SOUND RECORDING INDUSTRY

Note: A survey of the cultural sector labour force was released in 1996.

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 55 page detailed report, entitled "<i>Sound of the Future: Human Resource Issues in Music and Sound Recording</i>", was published in 1995. ▶ The study was prepared by Ekos Research Associates.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Address how the external environment will affect the future demand for the work of this sector (develop a vision of where the sector is heading and identify future trends and developments likely to have an impact on HR). ▶ Assess the current environment and identify any current demand/supply gaps for occupations/skills in the sector. ▶ Examine the impact of technological change on skill requirements and occupational structure and levels of employment. ▶ Assess how well current HR development systems are meeting the needs of the sector. ▶ The sector needs a more rational and business-like approach to the way it manages its human resources. Strains between this emerging rationalism and traditional emotional and interpretative character of arts and culture will require careful consideration.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ A literature review was conducted, including statistical data regarding labour market supply and demand. ▶ An international comparison was used to understand examples of policy and program initiatives which have been adopted by foreign governments, educational institutions, organized components of the labour force, and other institutions. ▶ A panel of 10 public and private sector experts were consulted regarding the major industry trends. ▶ Over 60 representatives from the Canadian music and sound-recording sector were interviewed. ▶ 10 focus group discussions were held with members of the labour force, with 8-10 participants involved in each session. ▶ Case studies involved Studio Morin Heights; TMP; Winnipeg Symphony Orchestra, and Capital EMI. ▶ Views of Delphi panelists were obtained over two rounds of consultations.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ The recession and fiscal restraint are some serious impediments to the future health of the sector. ▶ Following an increase through the 1980's, attendance for professional live performances has been decreasing since 1989. Main reasons were due to high prices and lack of availability (in particular areas).

NOTE: Data and information presented above were current at the time of the study.

**CHANGE DRIVERS
(continued)**

- ▶ Globalization is seen as a key to sustaining profitability. Participants in the sector need to pursue new markets in other countries and build on a growing international presence.
- ▶ Music education in schools has been declining. This area is viewed as the cornerstone of music appreciation. Study participants feel that music teachers at all levels of the public school system should have specialized training in order to be able to provide an adequate level of education (in terms of appreciation and career opportunities).
- ▶ As technological changes continue, there should be growth in areas such as the archiving of analog recordings, and more multi-media production.

Regulatory

- ▶ Government funding levels have been decreasing. It is perceived by the sector that these cuts are too deep and lack vision or strategy. The sector suggests that there should be better promotion and use of existing programs, and also grants and other funding should be restructured to ensure relevancy.
- ▶ Current trade agreements are viewed with cautious optimism, but many feel vulnerable to being overrun by foreign (U.S.) industries. Stronger cultural exemptions are requested/desired by the sector.
- ▶ CBC/SRC is very important to the industry as a distributional gateway to promote Canadian artists, and cuts to these institutions harm the music sector.
- ▶ The new digital delivery methods present potential for unauthorized distribution. Therefore, copyright law reform is deemed as necessary to ensure artists get paid for their work.

Technological

- ▶ Advances in technology have allowed for much greater variety and sound quality of music recordings available. Members of industry feel that products will have to become more targeted as fragmentation of demand continues to increasingly segment the market. Therefore, characteristics of these segments will need to be clearly identified and understood.
- ▶ Technological advances will continue to alter the way music is delivered. Electronic superhighway, fibre optics, satellites allow for more direct access of high-quality recordings. This presents threats to live performers, but opportunities for recorded products should increase.

Social/Demographic

- ▶ The Canadian population is becoming older and more ethnically diverse. This will result in development of new niche markets (e.g. expected to be more production and distribution of culturally diverse products, and market opportunities in sound recordings for baby boomer generation in genres such as adult contemporary, classic rock, etc.)
- ▶ Lifestyle changes have resulted in more focus on home-based entertainment, which should bode well for sales of CD's but may result in less live performance attendance.

NOTE: Data and information presented above were current at the time of the study.

CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ The sector includes recorded music (with and without image as well as in published form) and live performance of music. ▶ Revenue from performing arts companies was \$104.9 million in 1991; domestic revenue from the sound recording industry was \$1.2 billion in 1993 (78% from CD and cassette sales). ▶ There is a greater number of home and independent studios, which means less reliance on major labels for recording and distribution
UNIONIZATION / PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ Unions and guilds have a decreasing influence. However, Status of the Artist legislation should ensure that contracts and collective agreements are adhered to.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ The sector is composed of four major occupational groups: creative (composer, creative director), interpretive (singer, musician, arranger, conductor), technical (sound engineer, copyist), and administrative (producer, manager, promoter, etc.). ▶ In 1991, sector employment was approximately 17,000 (13,000 - creative, interpretive; 4,000 - other sound recording & related), with a high concentration in Central Canada where over 60% was in Ontario and Quebec. ▶ The workforce is predominantly male: 71% of composers, 68% of musicians and singers, 80% of other music occupations are male. However, it is felt that there are more opportunities for females. ▶ The percentage of self-employed individuals is much greater in this sector than in the entire culture industry, and in the overall labour force.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Most of the recruitment of new workers takes place through word-of-mouth, newspapers, auditions, and links with educational institutions (although procedures vary across occupations). ▶ Many self-employed workers exist as freelancers, working on short-term contracts.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ Most new and existing entrants have some level of formal post-secondary training (colleges, universities, conservatories), often in addition to apprenticeship, internship, and co-op experiences. ▶ Links between educational institutions and the sector are perceived to be weak. Insufficient formal ties mean that potential positive benefits such as increased relevance of programs, higher quality of graduates and easier transitions from school to work are not realized.

NOTE: Data and information presented above were current at the time of the study.

KEY HR ISSUES**Organizational Design**

- ▶ Versatility is key for interpreters, creators and technicians; many work, and will continue to work with various styles of music and hold varied occupations, both within and outside the sector (Since there are relatively few opportunities for long-term, stable positions).
- ▶ Job growth is expected in technological areas such as software development, archiving and systems design and management.
- ▶ There are currently three categories of workers: a small minority of those at the top who are nationally and internationally recognized; those employed with orchestras, post-secondary institutions, or the CBC and like institutions; and, majority of less-recognized members who tend to be self-employed and often struggle to make a decent living.

Recruitment

- ▶ Motivating force behind most careers is a love of music, and a passion and drive to contribute to Canada's music and sound recording scene.
- ▶ Generally perceived to be more workers available than there are jobs.
- ▶ However, there is a shortage of well-rounded marketers and managers who clearly understand the music business.

Training and Development

- ▶ Many education and training opportunities are available to individuals who aspire to join the workforce; the major weakness of available programs is that they do not seem to provide the "real-life" training required by the sector. There needs to be more focus on apprenticeships and on-the-job learning experience.
- ▶ Professional development and upgrading opportunities are increasing and improving, although they are not perceived to yet meet the needs of the workforce. The programs are not organized in a formal manner.
- ▶ The level of awareness of existing government training programs is low, a factor hindering participation in such programs.
- ▶ There is a need for computer and business skills enhancement across the sector. Specific occupations: creators - need skills in auditioning and performance enhancement; administrators - state-of-the-art computer literacy, fund-raising, legal and marketing skills; technical - digital recording, computer control and manipulation of data, new distribution technologies, and multi-media equipment.

Reward/Retention

- ▶ Salary, benefits, and job security are generally low, although there are variations among occupations and exceptions to the rule (e.g. those involved in large symphonic orchestras, administrators in medium to large organizations, and university music professors).

NOTE: Data and information presented above were current at the time of the study.

KEY HR ISSUES (continued)	Other <ul style="list-style-type: none"> ▶ There is a widespread perception in the labour force of the music sector that their contribution to society is undervalued by both government and public. ▶ Government programs are available, however, level of awareness of existence and intricacies of training programs. Barriers include lack of publicity of programs and limited access due to nature of work in industry (UI programs - self-employed workers are no eligible). ▶ Problems with government programs include that they are rigid, inconsistent and do not serve the needs of the industry, and that the application process is bureaucratic and complex.
RECOMMENDED PRIORITIES FOR ACTION	<ul style="list-style-type: none"> ▶ 35 recommendations for action are presented according to seven major headings: Communications, Market Development and Promotion, Cultural Policy, Labour Force Supply and Demand, Education, Training and Professional Development, Improving the Conditions of Workers and coping with Technological Change. Some examples include: <ul style="list-style-type: none"> - a council is needed for development and implementation of HR strategy, liaising with government, coordinating initiatives, and facilitating information exchange; - improve communication within sub-sector through the development of a database including topics relevant to the industry; - organizations should pool resources where mutual interests can be exploited (market studies, training programs); - Members should encourage government to develop a cultural policy which includes communication and information sharing, technological interaction, trade & rights legislation, market protection, education and training institutions; - sector must develop and encourage use of retraining and skills upgrading programs, and improve labour market information at all regional levels; - promote increased co-operation between school and industry (by involvement in curricula development, more teachers with industry involvement, more co-op type programs); and, - determine training needs, and develop programs which address these needs.

NOTE: Data and information presented above were current at the time of the study.

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NOTE: Data and information presented above were current at the time of the study.

**MEMBERS OF THE
STEERING
COMMITTEE****Employers**

Kitchener-Waterloo Symphony
The Pangaea Music House

Industry Associations and Councils

Association of Canadian Orchestras
Canadian Recording Industry Association
Record Producers Association

Unions/Professional Associations

American Federation of Musicians of the United States and Canada
Edmonton Musicians' Association
Gilde des musiciens du Québec
Union des Artistes

Government

Department of Canadian Heritage
Human Resources Development Canada

NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1992 HUMAN RESOURCES STUDY OF THE UPSTREAM OIL AND GAS INDUSTRY

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 59 page detailed report, entitled "<i>Human Resources in the Upstream Oil and Gas Industry - Changes, Challenges, Choices</i>", was published in 1992. ▶ The research was undertaken by Peat Marwick, Stevenson & Kellogg and Ziff Energy Group.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Downsizing is creating concerns that the industry will be unable to attract new workers in the future.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ The first step consisted of carrying out sufficiently thorough studies to make it possible to prepare a detailed work plan and to agree on the methodology to use. ▶ Preliminary profiles of the structure of the industry and its work force were prepared. ▶ Basic data were obtained, and other studies and relevant legislation were examined. ▶ A series of 9 focus groups were held to obtain various viewpoints on economic, technological and employment trends that characterize the industry. ▶ These focus groups probed the questions related to the goals of the study and provided comments on the development of surveys. ▶ A survey on education was conducted to compile an inventory of educational programs relevant to the industry and to obtain data on enrollments in educational institutions. ▶ A survey with industry companies was carried out to collect data on past and present rates of employment by occupational category, on full-time jobs compared with contract and seasonal work, and on the age distribution of the employees. ▶ Hypothetical scenarios were created regarding future maximal and minimal oil and gas prices. These hypotheses were then transposed into the fiscal model of the industry used by the Canadian Petroleum Association to predict the strength of industry demands for human resources. ▶ An analysis of the age distribution of the industry's current workforce was carried out and, using presumed attrition rates, a projection of the supply of human resources by age and occupational category was established up to the year 2000. ▶ A summary of the results of the research is presented as follows: industry profile, employment profile, profile of educational and training institutions, forecasts of the demand for human resources, including the impact of technological change, and the supply of human resources, including education and training and human resource planning strategies to take into account imbalances between supply and demand.

NOTE: Data and information presented above were current at the time of the study.

CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ There have been dramatic fluctuations in prices and revenues. ▶ Rapid growth in both demand and world price was followed by a collapse and an oversupply on the world market. ▶ There were patterns of mergers and acquisitions in the 1970s and 1980s as foreign firms left Canada. ▶ Since mid-80s, corporate transactions have involved takeovers of distressed firms and spin-offs from major companies. ▶ Capital investment in industry had soared through the 1970s but the collapse in world prices led to a precipitous drop in capital investment, along with industry downsizing and a decrease in exploration. ▶ The Western Canada Sedimentary Basin (WCSB) is maturing, causing a depletion of reserves. ▶ Finding and development costs are increasing for the major and senior companies. ▶ The declining value of the Canadian dollar reduced returns. ▶ FTA did not have a direct effect on the industry but formalized an already open market relationship between Canada and the U.S. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ Expansion of OPEC cartel in 1970s led to a sheltering of Canadian prices and further economic intervention in the early 1980s by the National Energy Program (NEP) followed by deregulation and return to world prices in 1985. <p>Technological</p> <ul style="list-style-type: none"> ▶ Enhanced recovery technologies may extend reserves along with new exploration technologies. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ Predominately male workforce.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ The sector includes companies involved in the following areas: exploration and production (E&P), geophysical, drilling, and oilfield services (GD&O), and small trucking and rental stores. ▶ The E&P companies are the core of the industry in which large firms dominate. The GD&O is a service sector which supports E&P by providing equipment, products, and technical expertise. ▶ Estimated total sales of \$18.8 billion in 1990. ▶ The market structure, links to suppliers, and source of R&D technological change is not mentioned. ▶ The structure of the industry is complex: majors are multinational firms; smaller firms are Canadian owned; and there is a decreasing concentration as majors rationalize their operations. ▶ A total of 2000 establishments exist in three distinct segments: 450 active in exploration and production (E&P), 950 smaller establishments in geophysical drilling and oilfield services (GD&O) and 900 in supply/trucking.

NOTE: Data and information presented above were current at the time of the study.

CHARACTERISTICS OF THE INDUSTRY (continued)	<ul style="list-style-type: none"> ▶ The geographic distribution of establishments is highly concentrated in Western Canada, with Alberta accounting for 85% of production. ▶ Capital investment totaled \$6.4 billion in 1990. ▶ Recent financial performance has been weak and ROI has under-performed other industries, leading to declining investment, and causing major concern. ▶ Part of a global market in which Canada is a relatively small player, and has no influence on price as derived demand is based on world economic factors. ▶ Very capital intensive and long lead times exist between exploration and returns. ▶ Key success factors include cost of capital.
UNIONIZATION/ PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ Unionization is low.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ Total employment of 68,000 in 1992, down from 79,500 in 1988; nearly half the employees are in the major companies. ▶ Primarily full-time employment in the supply segment and in the E&P sector; contract/seasonal employment is more significant in geophysical and drilling. ▶ Major occupations are engineering and geoscience professions and 60% are in industry-specific occupations (land, exploration, production, field and plant staff) while GD&O has a lower proportion of professional staff. ▶ The average age in the E&P sector is 38 and in the GD&O sector the average age is 35. ▶ Post-secondary education is typical in E&P with 30% with at least one degree, 16% with technical school certificates and 20% with a trade ticket. The GD&O has only 3% with degrees and 7% with diplomas because a higher proportion of the jobs are labour intensive and seasonal. ▶ The workforce is predominantly white male, and women play a small role. Only 5% of engineers are female and only 1 out of 40 female engineers is in management. It is also estimated that there is less than 1% aboriginal individuals employed. ▶ Following massive downsizing, turnover has declined to 3.5% in majors. The basic career path was within a firm in the E&P sector where as GD&O was more mobile, and job security was always more limited. Hence, high attachment to the sector has declined.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ There is provincial employment legislation jurisdiction except for the far north. ▶ Small firms tend to recruit experienced workers from the larger firms, whereas majors used to recruit large numbers of new graduates. ▶ Employees are very well paid by most standards, however, salary freezes are beginning to emerge. Variable compensation is also an emerging trend along with team rather than individual performance. Demand for and interest in flexible benefits plans is also increasing. ▶ Downsizing is focused on exploration end, not on production. ▶ There has been considerable downsizing through early retirement and attrition.

NOTE: Data and information presented above were current at the time of the study.

HR MANAGEMENT PRACTICES (continued)	<ul style="list-style-type: none"> ▶ Human resource planning is the most critical issue facing the oil patch. There is a need to diversify the work force; more women, natives and other minority groups are represented in disproportionately low numbers. New talent must be attracted and existing talent retained. "Brain power" is being lost at a rapid rate due to downsizing and must stop, and internal training programs must be maintained.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ 2/3 of employees in the E&P segment have a degree, diploma (often in earth sciences or engineering) or trades ticket, but 2/3 in GD&O are trades or labourers. ▶ Internal training is stronger in the E&P segment where workers receive extensive training in industry technologies. ▶ Requirements for licensing or certification not mentioned. ▶ Co-operative education programs are lauded by industry and as educators and employers require better data, industry will continue to forge educational linkages. ▶ Many companies plan to cut training expenditures. ▶ The working population is aging, in effect, less basic training is required and is only provided on an as-and-when needed basis. Mentors are one of the most important elements of training but their numbers are declining due to rapid reduction of experienced employees. The Petroleum Industry Training Service (PITS) offers certification programs in blow-out prevention and well control. ▶ Distance learning is popular, and "high impact" training courses for employees are being demanded. ▶ Acquisition of multiple skill sets is important and there is a strong demand for safety and environment-related training.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ There are changing work designs and practices along with quality improvement. ▶ Students are avoiding industry-specific programs as post-secondary students are more diverse. ▶ Demand for landmen is projected to reduce by about 330 jobs to 1995 and increase by 450 jobs in the following five years. ▶ The workforce is highly skilled and the industry grows on its talent. ▶ Acquisition of multiple skill sets is important for students. ▶ In event of a recovery, shortages are likely. ▶ There is a need for retraining/upgrading. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ It is not difficult to recruit but there is concern about capacity to attract the best talent. ▶ The image of the industry has declined considerably and it is no longer considered a good place to work as people are driven by fear, not challenge. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ There is concern that internal training infrastructure is eroding since adequate continuous learning cannot be provided.

NOTE: Data and information presented above were current at the time of the study.

KEY HR ISSUES (continued)	<ul style="list-style-type: none"> ▶ To keep employees motivated, employers will have to redefine “getting ahead” as “getting better” and the development of new job enrichment and performance improvement strategies are necessary. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ Need to change rewards structure to encourage top performance. ▶ Occupational health and safety not mentioned. ▶ Working conditions are remote, noisy, outdoors, and include shifts. ▶ Need to enhance workforce balance not clearly mentioned, however, there is a need to improve retention practices or risk losing most mobile, skilled workers. <p>Other</p> <ul style="list-style-type: none"> ▶ Downsizing has replaced natural attrition with artificially induced change. ▶ About 60% of the companies interviewed expect to downsize. ▶ Need for ongoing recruitment and enrollment data. ▶ Adequacy of government HR supports/infrastructure not mentioned.
RECOMMENDED PRIORITIES FOR ACTION	<p>Establishment Level</p> <ul style="list-style-type: none"> ▶ Integration of Human Resources Planning (HRP) with business planning and closer monitoring of Human Resources (HR) demand and ongoing HRP. ▶ Downsizing rationally rather than taking the path of least resistance, to maintain a viable age distribution for the future. ▶ Consideration of non-traditional sources of skills such as women, natives, and other minority groups. ▶ Seek alternatives to full-time (FT) staff, such as outsourcing, contract and temporary staff, and worksharing. ▶ Continue to hire new graduates and experienced skilled people, while culling non-performers. ▶ Maintain internal training programs and further develop links with educational institutions for continuing education of staff. ▶ Develop strategies for retraining talented staff. ▶ Consider alternative means of motivating employees through job enrichment, employee empowerment, compensation alternatives, open communication, and flexible work arrangements. ▶ Investigate the implications of an aging workforce on defined benefit pension plans. <p>Sectoral Level</p> <ul style="list-style-type: none"> ▶ Form a joint human resources council to coordinate initiatives. ▶ Support a broad discussion of issues. ▶ Monitor and share individual firm strategies and future human resource supply and demand trends. ▶ Forge stronger links with the education sector to facilitate better information exchange on enrollment trends, recruitment plans, and curriculum needs. ▶ As HR practices improve, promote new image of industry employment. ▶ Education sector to collect and communicate data on enrollment.

NOTE: Data and information presented above were current at the time of the study.

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NOTE: Data and information presented above were current at the time of the study.

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NOTE: Data and information presented above were current at the time of the study.

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NOTE: Data and information presented above were current at the time of the study.

MEMBERS OF THE STEERING COMMITTEE	<p>Employers</p> <ul style="list-style-type: none"> Drake Beam Morin-Alberta Inc. Mobile Oil Canada <p>Industry Associations and Councils</p> <ul style="list-style-type: none"> Association of Professional Engineers, Geologists and Geophysicists of Alberta Canadian Association of Oilwell Drilling Contractors Canadian Petroleum Association Council of Presidents, Public Colleges and Technical Institutes of Alberta Independent Petroleum Association of Canada Petroleum Services Association of Canada Small Explorers and Producers Association of Canada <p>Educators</p> <ul style="list-style-type: none"> Alberta Advanced Education Canadian Petroleum Products Institute Council of Presidents, Public Colleges and Technical Institutes, Alberta Petroleum Industry Training Service Southern Alberta Institute of Technology University of Lethbridge <p>Government</p> <ul style="list-style-type: none"> Employment and Immigration Canada Energy Mines & Resources Canada
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NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1996 HUMAN RESOURCES STUDY OF THE **PLASTICS INDUSTRY**

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▸ This 65 page study, entitled "<i>People in Plastics: Creating the Competitive Advantage</i>", was released in June 1996. ▸ This analysis of the human resources needs of the Canadian plastics industry was carried out by the ARA Consulting Group. ▸ A steering committee made up of representatives from employers, employees, associations, training and educational institutions, and governments ensured that the needs analysis brought value-added research to the industry.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▸ Advances in the industry are directly related to: efforts at rationalization, the emergence of new technologies and new products, the use of integrated systems, the globalization of markets, and environmental regulations and concerns. The development of a skilled workforce is considered critical.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▸ One of the main elements of this human resources needs analysis was detailed surveys carried out in both the thermoplastics and composite sectors. These surveys identified: current training and human resources practices; technological changes affecting manufacturing processes; and anticipated training needs.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▸ The plastics sector is recognized as being a dynamic sector. One of its main challenges is to maintain growth by improving its competitiveness. <p>Regulatory</p> <ul style="list-style-type: none"> ▸ The importance of exports is forcing manufacturers to adhere to recognized quality standards such as ISO 9000. ▸ There is an increasing number of environmental policies and regulations. <p>Technological</p> <ul style="list-style-type: none"> ▸ The development of materials and technology is constantly increasing development costs. ▸ Increased use of computer technologies in production processes and in the development of integrated computerized systems. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▸ Many regions of Canada depend on new immigrants to fill positions. ▸ The plastics industry pays a lower average salary than the manufacturing sector as a whole.

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CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ The Canadian plastics industry serves several industrial sectors, including the automobile, construction materials, packaging and electronic products sectors. ▶ Annual shipments are worth about \$17 billion, of which exports account for 20%. ▶ Companies are Canadian, family-owned, dominated by investment in equipment, and generally too small to take advantage of economies of scale. ▶ The Canadian plastics industry is undergoing some important structural changes. Some of the biggest challenges include: increased competition from foreign manufacturers; an unstable and unpredictable market demand; shortage of qualified workers; environmental regulations; and, increasingly high development costs.
UNIONIZATION / PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ United Steelworkers of America, and the Communications, Energy and Paperworkers Union (CEP) represent workers in the larger plastics manufacturing companies.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ The industry employs more than 90,000 Canadians in 2,500 companies across the country. ▶ Workers are sharply divided between highly skilled engineers and technicians on the one hand, and operators with limited education and experience on the other. ▶ On average, proportionately more women are employed in plastics than in the manufacturing sector as a whole. ▶ Employment has increased faster in the plastics industry than in the manufacturing sector as a whole. ▶ Average salaries are lower in the plastics industry than in the manufacturing sector. However, the variance from this average is relatively significant. ▶ There is an acute shortage of qualified workers. ▶ The employee turnover rate is higher than in the manufacturing sector as a whole. ▶ Workers demonstrate significant deficiencies in basic skills (reading, writing, mathematics, communications).
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Some manufacturers pay lower wages as a business strategy for gaining a competitive edge. However, these salary structures result in an above-average turnover. ▶ In contrast, other manufacturers pay above-average salaries. This human resources management strategy might be termed a high-value-added strategy because these manufacturers invest much more in new technologies and market research.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ In most plants, production workers are trained in an ad hoc manner or on-the-job basis. ▶ There are no recognized, industry-wide, competency standards for occupations. ▶ Most companies do not have the resources or facilities to develop structured training programs for their production workers.

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TRAINING AND DEVELOPMENT PATTERNS (continued)	<ul style="list-style-type: none"> ▶ The high employee turnover rate discourages manufacturers from investing in the development of costly training programs. ▶ The industry is highly dependent on suppliers of polymer products for training and technical support. Rationalization in the polymer industry no longer permits suppliers to offer as much support as before.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ There are increasing differences between the skills that will be required in the next ten years and existing labour force skills. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ The industry expects a decline in its need for low-skilled production workers and an increase in its requirements for skilled production workers and technically-trained workers. ▶ The capacity of colleges, CEGEPs, and high schools to provide the amount of training required by the industry is severely constrained by limited resources, especially up-to-date equipment. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ The industry expects to increase its dependency on the training offered by the suppliers of polymer products, even though the latter have stated that they want to reduce the amount of training they offer. ▶ Even though there is a widespread need to update workers' basic skills, few manufacturers are in a position to offer such training. ▶ There is a widening gap between training needs and training availability. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ Workers who are employed in the plastics sector and who wish to remain there should have access to a system of upgrading to develop the skills associated with plastics manufacturing.
RECOMMENDED PRIORITIES FOR ACTION	<ul style="list-style-type: none"> ▶ The report highlights a series of recommendations that will enable the industry to develop activities to ensure that investments in human resources provide the maximum possible benefit to the company and its employees. These recommendations can be summarized as follows: <ul style="list-style-type: none"> - establish an industry sector council to coordinate human resources training and development initiatives; - establish a training trust fund; - promote the development and adoption of occupational and training standards; - foster the development and implementation of new learning technologies; and, - promote the delivery of management and production-related training.
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MEMBERS OF THE STEERING COMMITTEE	<p>Employers</p> <p>ABC Group</p> <p>At Plastics Inc.</p> <p>B.C.H. Unique Inc.</p> <p>Camoplast Inc.</p> <p>Centre des plastiques de Bellechasse</p> <p>Dynoplast Ltd.</p> <p>Extrufix</p> <p>Graham Products</p> <p>Hamelin Group Inc.</p> <p>Husky</p> <p>IPL Inc.</p> <p>Petrolia Plastics Inc.</p> <p>Plastics Maritime Ltd.</p> <p>RPC Manufacturing Inc.</p> <p>SPM Calgary Inc.</p> <p>Waltec Plastics</p> <p>Unions/Professional Associations</p> <p>United Steelworkers of America</p> <p>Communications, Energy and Paperworkers Union (CEP)</p> <p>Industry Associations and Councils</p> <p>The Society of the Plastics Industry of Canada (SPI)</p> <p>Educators</p> <p>British Columbia Institute of Technology</p> <p>Canadian Plastics Training Centre</p> <p>Government</p> <p>Human Resources Development Canada (HRDC)</p> <p>Industry Canada</p> <p>Economic Development and Tourism, Alberta</p> <p>Ministry of Education, Quebec</p> <p>Ontario Training and Adjustment Board (OTAB)</p> <p>Société québécoise de développement de la main-d'oeuvre (SQDM)</p>

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SUMMARY OF THE 1992 HUMAN RESOURCES STUDY OF THE COMMERCIAL PRINTING INDUSTRY

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 106 page detailed report, entitled "<i>Human Resources in the Canadian Commercial Printing Industry</i>", was published 1991/92. ▶ The research was undertaken by Price Waterhouse.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Concern regarding competitiveness of the industry after implementation of the FTA. ▶ Emerging market, technological and government policy pressures and challenges (e.g., FTA) led to a number of transitions. ▶ In addition, the recession of the late 1980's caused many plant closures and layoffs and weakened the market and profit outlook for the industry.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ Literature review conducted. ▶ Special tabulations of Statistics Canada data were completed. ▶ Over 200 in-depth interviews with employer and union representatives, training providers and material and equipment suppliers were conducted. ▶ 12 focus groups were conducted. They included: two with laid-off printing workers; two with unionized printing employees; one with non-unionized printing production employees; one with sales and production management staff; four with students undertaking printing training or retraining; one with senior manager, and; one with union leaders. ▶ A training survey was mailed to over 30 secondary and post-secondary schools involved in printing-related training in Canada.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ Globalization, and international competition were affecting the industry, particularly FTA which opened the Canadian market to large U.S. printers. Also a concern in the industry regarding a potential NAFTA and resulting competitive threat from Mexico. ▶ The high value of Canadian dollar led to market pressures in international trade. ▶ There was an erosion of growth trends in demand for printed products. ▶ An anticipated increase in demand for colour was associated with the ease of desk-top publishing colour production. ▶ Lowering of profit margins was occurring in a traditionally profitable sector. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ Regulatory changes affecting the industry included GST, capital cost allowance, postal rates, environment (recycling); country of origin markings. ▶ Interprovincial trade barriers were inhibiting industry growth as was the taxation system.

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CHANGE DRIVERS (CONTINUED)	<p>Technological</p> <ul style="list-style-type: none"> ▶ Information and communications technologies allowed much more distant delivery of services within the industry and products. ▶ Desk-top publishing (DTP) was improving and becoming a threat to traditional processes. ▶ Massive technological change in pre-press changed the market view of the printing process, changed expectations for service and structure of the market; and resulted in proliferation of in-house DTP pre-press capacity. ▶ The boundaries between small commercial printers and quick printers would continue to blur; boundaries of pre-press sector were crumbling. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ Not mentioned.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ The industry includes the commercial printing subgroups of Printing (SIC 28), Commercial Printing (SIC 281), and Platemaking, Typesetting and Bindery (SIC 282). ▶ A manufacturing sector (although service is essential component). ▶ Estimated total sales of \$6.2 billion in 1989. ▶ Imports exceeded exports (3:2 ratio) in 1988. ▶ Primarily small businesses, Canadian-owned with some large multinationals (4% of plants, 15% of shipments). ▶ Many family-run businesses. ▶ Traditionally a local market focus. ▶ Low barriers to entry in both press and pre-press; declining price of pre-press equipment led to many new entrants; availability of second hand presses kept capacity up. ▶ 2,600 firms with total of 3,200 establishments in 1989; fragmented into sub-sectors (business forms, directories, magazines are all relatively specialized). ▶ Very widely dispersed geographically although Ontario accounts for about 43% of establishments and 50% of shipments. ▶ Equipment suppliers are the main source of R&D, and technology is available world-wide; however links between equipment suppliers and users are tenuous and most printers learn about new technologies at trade shows. ▶ Production management and capacity utilization are key success factors.
UNIONIZATION/ PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ It is estimated that over 30% of all printing production workers belong to a union. ▶ Unionization is more prevalent among the larger plants.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ Total employment of 64,000 in 1989; employment grew strongly in the 1980's; long-term shipment growth will exceed employment growth. ▶ 80% of establishments employ fewer than 20 people. ▶ Predominantly full-time, direct employment. ▶ There was some growth in part-time and contract (freelance) employment, particularly in non-union shops, pre-press area. ▶ Shift work was common.

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EMPLOYMENT PATTERNS (continued)	<ul style="list-style-type: none"> ▶ The four major occupation categories defined in functional terms were: management and sales, pre-press operators, press operators and support workers, and bindery operators. ▶ Operational specialization is defined by equipment. ▶ On average, a younger workforce than other manufacturing sectors. ▶ There was some age polarization: younger workers entered and left, older workers stayed and workers in some occupations were aging rapidly (typesetters). ▶ 40% of workforce has less than a high school education. ▶ Few jobs where post-secondary education is required exist in the industry. ▶ Gender imbalance and ghettoization occurred; few women worked in press occupations, they were clustered in low paying bindery work; although more women were appearing in new pre-press areas. ▶ High turnover was experienced at entry levels; defined lines of progression existed in press and bindery; traditionally operators became entrepreneurs but with little formal management development. This turnover rate reflects employee movement from one company to another.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Very minimal formal HRP activity/capacity. ▶ Defined lines of progression for occupations. ▶ Downsizing done mostly through layoffs (temporary and permanent) but also some worksharing; there was a preference for worksharing but also a concern about institutionalizing it.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ On-the-job training (OJT) is very important for all operators as secondary schools provide only some basic training (press and pre-press). ▶ Industry felt there was a lack of structure in OJT; the role of head operator critical in good OJT. ▶ Historically apprenticeable crafts in the industry, but now apprenticeable in some provinces; concern that apprentices in small firms were not exposed to all functions. ▶ Employer preference was for combined practical/classroom learning. ▶ Unions are major players in apprenticeship training; joint union-employer training centres in Toronto, Montreal and Vancouver were operating. ▶ Internal training infrastructures are minimal, informal. ▶ Industry-education links were tenuous in many cases; outstanding examples of good links were Ryerson Polytechnical University, Collège Ahuntsic, and union schools. ▶ Common training activities are short courses on new equipment provided by suppliers.

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KEY HR ISSUES**Organizational Design**

- ▶ Changing work designs/work practices, especially in pre-press areas but also in press and bindery such as challenging the "manning" rules which was very controversial; some moves to delayering and empowerment of operators.
- ▶ Introduction of total quality management concepts required both technical and communication skills.
- ▶ Occupational mix was changing in pre-press with merging of equipment-specific occupations into overall pre-press operator position.
- ▶ Need for improved analytical, conceptual skills for automated pre-press and for automation of other functions; need for communication, service and sales/marketing skills; overall major need for management skills development.
- ▶ A debate on sourcing of sales and estimators: need for technical background argues for a career path in production yet also a need for marketing and management skills.

Recruitment

- ▶ Very minimal formal HRP activity/capacity.
- ▶ Word-of-mouth recruitment is common.
- ▶ Retraining should take precedence over recruitment; avoid recruitment to crafts which are automating.
- ▶ Some problem with "dirty" image of the industry; not seen as high-tech.

Training and Development

- ▶ Need to improve education/training infrastructure for operators and manager level, particularly outside major urban areas.
- ▶ Need to support continuous learning.
- ▶ Critical need to improve HR management to link business strategy, performance and people.
- ▶ Concern regarding cost of training.
- ▶ Need to improve links among training providers (schools/colleges) to allow for brokering, transferability; need to enhance links between employers, unions and trainers; upgrade trainers, and improve coaching skills for OJT.

Reward/Retention

- ▶ Traditionally very good compensation rates, but pressures in the industry were forcing these down.
- ▶ Sales force traditionally worked on commission.

Other

- ▶ On-going need for outplacement of those caught in major technological change (e.g. pre-press operators); counselling services to increase mobility.
- ▶ Occupational health and safety remained an important issue due to use of hazardous chemicals; equipment.
- ▶ Shift work, shift length and rotation were a concern to some.
- ▶ Need to improve employment equity not well recognized; reluctance to challenge internal progression.
- ▶ HR data were not very good but not seen as major issue.
- ▶ Some concern about equal availability of government HR supports/infrastructure.

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RECOMMENDED PRIORITIES FOR ACTION	Establishment Level <ul style="list-style-type: none"> ▶ Managers to assess training needs of self and staff (collaboratively). ▶ Collaborate with union/educators to identify local training options. ▶ Individual workers have to accept the need to learn/retrain. Sectoral Level <ul style="list-style-type: none"> ▶ Development of management skills of those in the business today, including development of HR management and marketing skills. ▶ Build a retraining culture and enhance delivery capacity for retraining and development of technical and production workforce.
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MEMBERS OF THE STEERING COMMITTEE	Employers Broadway Printers Limited Colourgraph Reproduction Systems Inc. Dartmouth Free Press Limited Data Business Forms D.W. Friesen & Sons Ltd. Earl Whynot & Associates Graphics Limited The Graphic Monthly Imprimerie Québecor Inc. Imprimerie Trandek Ltée MacLean Hunter Printing M C Graphics Inc. Prairie Graphics Industries Ltd. Southam Graphics Group Unions/Professional Associations Graphic Communications International Union Printing, Publishing and Media Workers Sector - Communications Workers of America Syndicat Québécois de l'industrie et des Communications Industry Associations and Councils Canadian Printing Industries Association Council of Printing Industries in Canada National Association of Quick Printers Educators Canadian Graphic Arts Institute Collège Ahuntsic The George Brown College of Applied Arts and Technology Ryerson Polytechnical Institute Government Alberta Career Development and Employment Employment and Immigration Canada Industry, Science and Technology Canada

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SUMMARY OF THE 1993 HUMAN RESOURCES STUDY OF THE **PULP AND PAPER INDUSTRY**

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 167 page detailed report, entitled "<i>The Canadian Pulp and Paper Industry: A Focus on Human Resources</i>", was published in 1993. ▶ The study was undertaken by Price Waterhouse.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Concern about the continued viability of the industry and the HR implications thereof.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ Document review and data base analysis was completed. ▶ Interviews and focus groups were conducted with representatives from industry associations, trainers and educators, students, technology experts, suppliers, labour representatives, workers, government (provincial and federal), and managers of pulp and paper operations. ▶ A two-round Delphi analysis with a panel of technology and human resource experts from industry associations, research organizations, universities, government, suppliers and industry, was conducted. ▶ Site visits to 15 pulp and paper industries and 7 other mills were made to observe operations. ▶ A mail survey of all pulp and paper operations in Canada focusing on employment and training was completed.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ Global market in which Canada had former predominance has been challenged and eroded. ▶ The Canadian P&P has been experiencing difficult times, reflected in financial losses, machine shutdowns and mill closures. ▶ The fibre costs are higher than those in many other countries which negatively impacts competitiveness. ▶ Pattern of temporary and permanent mill closures. ▶ GATT, FTA and NAFTA affect market access. ▶ Need to upgrade capital investment, yet concerns about tax climate. ▶ Canada becoming a swing producer; need to improve competitiveness through productivity gains; at current cost structure, many mills not competitive. ▶ Market pressure for ISO 9000. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ Environmental regulations in Canada and in its markets require considerable investment in new process technologies (recycling, emission controls) or will force closure. ▶ Concerns about fibre costs and availability, land access.

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CHANGE DRIVERS (continued)	<p>Technological</p> <ul style="list-style-type: none"> ▶ More sophisticated mill technologies, particularly automation technologies (IT). ▶ Technological development has focussed on building larger and faster machines. ▶ Most of the technologically advanced machinery in the pulp and paper sector is produced by a few global manufacturers and installed by a relatively small number of international consulting and engineering firms. Accordingly, new technology is available worldwide to any company with enough capital and it is insufficient to sustain long-term competitive advantage. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ "Greening" of public interest.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ Sector defined to include pulp, newsprint and fine paper producers (SIC 2711, 2712, 2713, 2714, 2719); excludes converting and boxboard operations. ▶ Processing sector, but linked to forest resource sector. ▶ 1991 estimated total sales of newsprint and other papers (including paperboard): \$15.7 billion. ▶ Total of 144 mills in Canada. ▶ In 1992, 55 mills out of total 144 had some portion of foreign ownership; Canadian-owned firms are also active in other countries. ▶ Large, capital intensive firms. ▶ Geographically concentrated in BC, Quebec and Ontario, fewer mills on prairies and in Atlantic Canada; over 100 small and medium communities depend on P&P industry. ▶ Largest export sector in Canada. ▶ Financial performance has been weak; the sector had a net loss of \$1.3 billion in 1991. ▶ Key success factors include: cost and availability of fibre and energy supply; versatility in producing quality demanded by market (e.g. multiple grades etc.) is increasingly important; marketing is emerging as important key success factor.
UNIONIZATION / PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ About 63% unionized; CEP accounts for about 80%; others are PPWC (mostly B.C.) and FTFP (Quebec) plus some trade-specific unions.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ In 1991, the estimated total employment was 72,000; expected to decline by about 20,000 through the rest of the 1990s. ▶ Predominantly full time direct employment; however contracting out is growing. ▶ Shift work and shift rotation common for 24 hour operations. ▶ Major occupations: operators, trades, technicians, engineers, managers and administrative support.

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EMPLOYMENT PATTERNS (continued)	<ul style="list-style-type: none"> ▶ Average operator age is 40, higher than workforce as a whole; aging and retiring operational workforce due to layoffs and low levels of recruitment in recent years. ▶ Very male dominated; resistance to women in non-traditional roles. ▶ Most of the workforce has completed high school; professional/technical ranks have post-secondary educations. ▶ Literacy and numeracy gaps. ▶ Low turnover; structured lines of progression within mills; little mobility across mills; trades have more mobility but remote locations make such moves more difficult.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Provincial employment jurisdiction. ▶ Internal promotion patterns. ▶ Relatively well paid, especially with overtime; hourly based. ▶ HR capacity at mill level tends to focus on industrial relations types of activities. ▶ Acknowledgment that EE legislation coming but little real sense of pressure. ▶ Canadian Pulp and Paper Association (CPPA) involvement in HR issues is proactive, with a well defined and developed network of HR officials.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ Operators learn through on-the-job training; apprenticeship trades; technicians used to learn through on-the-job, more training through colleges occurring. ▶ Specialized college programs available in Quebec, Ontario and BC; no undergraduate speciality in P&P but M. Eng. program at McGill and UBC. ▶ Continuing education provided through association and through colleges and universities. ▶ Training specific to new equipment is fairly common, with vendors providing the training. ▶ Estimated 2.8% of payroll invested in all training, including on-the-job training; on-the-job training represents a significant portion of training dollars. ▶ Industry-education links good with specialized college and university programs; links to more general programs are not as strong. ▶ Difficulty tracking training activity and training costs.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ Employers seeking changes in work designs/work practices but these are resisted by workers/unions; multi-skilling and cross-training are "dirty" words but sought by employers; changes have been implemented at some mills. ▶ Decline in proportion of manual labourers and operators associated with automation. ▶ Decrease in maintenance employment associated with contracting out. ▶ Automation fundamentally changes job of operator; demands more conceptual and analytical skills, less opportunity for hands-on learning; "technologizing" of a craft skill. ▶ Need for upgrading of operators; all occupations will require broader skills; communications and leadership skills for engineers required.

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KEY HR ISSUES (continued)	<p>Recruitment</p> <ul style="list-style-type: none"> ▶ Recruitment generally not an issue except from employment equity perspective. ▶ Industry is an attractive employer in small communities, perhaps too attractive. High wages traditionally drew people who had not completed high school; industry is less attractive to post-secondary graduates. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ Concern expressed about adequacy of K-12 education system. ▶ Need to: enhance continuous learning infrastructure/supports, to widen access; and improve distance learning. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ Changes in reward structure to more of a performance-based structure desired by some managers, resisted by unions. ▶ Work with hazardous materials poses risks. ▶ There are concerns regarding ergonomics. ▶ Occupational health and safety committees well established. They form a model for joint action at mill level. ▶ Working conditions have improved as more workers are in control booths; however, heat, humidity, noise, dust remain common. <p>Other</p> <ul style="list-style-type: none"> ▶ Need to improve employment equity picture not given high priority. ▶ Major downsizing is inevitable, even though the specific patterns of closures are not clear; need to improve outplacement processes; concerns for transferability of skills and counselling supports for laid off workers. ▶ Need for ongoing HR and training data. ▶ Concern regarding equal access to government HR supports/infrastructure across Canada.
RECOMMENDED PRIORITIES FOR ACTION	<p>Establishment Level</p> <ul style="list-style-type: none"> ▶ Joint initiatives to streamline and delayer organization, address work practices and create continuous improvement in quality and productivity. ▶ Joint action to help workforce understand the economic realities facing P&P. ▶ Address literacy/numeracy gaps. ▶ Support co-op programs specific to P&P skills. <p>Sectoral Level</p> <ul style="list-style-type: none"> ▶ Joint action re: training to promote/publicize competitive situation and the need to change. ▶ Joint action to develop model approach to mill closure. ▶ Collaborate to improve structure of operator training. ▶ Collaboration between industry and educators to develop distance learning methods and courseware. ▶ National joint Occupational Health and Safety committees; improved coverage of Occupational Health and Safety in formal education. ▶ Assessment of cultural and systemic barriers to employment of women.

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SUMMARY OF THE 1997 HUMAN RESOURCES STUDY OF THE CANADIAN RETAIL TRAVEL SERVICES INDUSTRY

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 102 page detailed report, entitled "<i>Future Skill Requirements in the Retail Travel Industry</i>", was published in May 1997. ▶ The report was prepared by the Canadian Tourism Research Institute, part of the Conference Board of Canada.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ A number of technology changes are significantly impacting the work/role of the travel agent/counsellor. There was a need to: identify the main trends affecting the industry; determine the expected impact of these trends on agencies and on the skills of the workforce and, provide the industry with a better understanding of how these trends will transform their businesses.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ All of the analysis undertaken for the study was completed throughout the course of 1996 and early 1997. ▶ The first phase of the project (fall 1995) was a survey sent to human resources executives and tourism operators across the country to provide benchmark information: trends in training programs; current and future skill requirements for travel counsellors; estimate future employment requirements for various positions within agencies and basic skills/knowledge areas that would increase in importance over the next five years. ▶ The second phase of research included more in-depth research into current industry trends and the main factors that are influencing the evolution of retail travel services, and ultimate impact on the skills required of its workforce. The focus was on travel agents/counsellors and travel managers. ▶ A literature review was conducted, covering a number of trade journals, industry editorials, research reports and statistical databases accessed through on-lines sources magazines, newspapers and Web sites. ▶ Interviews, focus groups and round tables of industry executives. ▶ A Delphi session was held with technology experts through e-mail. ▶ Three surveys were conducted: <ol style="list-style-type: none"> 1. A survey of travel agency employers (phase I) was used as the starting point for phase II of the research. e.g. 407 questionnaires/65 completed questionnaires were returned (16% response rate). 2. A survey of travel counsellors was then designed to obtain their opinions on current and future skill requirements for their jobs and on the trends they felt would have the biggest impact on their jobs in the coming years. It also gathered information on where these skills should be taught and the effectiveness of travel schools to provide basic skills to graduates. 3. A third survey, this one distributed to industry suppliers was designed to obtain their views on current booking methods for both travellers and travel counsellors and the impact of any changes in these methods.

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CHANGE DRIVERS**Economic/Market**

- ▶ The demand for travel services has leveled off in the past 4 years after registering a significant decline in 1991. The impact of the recession was clearly felt in the travel services industry, as consumers and businesses cut back on travel spending.
- ▶ Corporate travel managers are dealing with the demands of management to better control costs.
- ▶ In the short term, the relationship between counsellors and suppliers becoming more business-oriented will have the greatest impact on the industry.
- ▶ A current trend is the advent of the big-box travel stores on the U.S. retail travel industry which offers not only reservation services, travel books, guide books but also luggage and other travel-related merchandises. Time will tell whether this concept will be adopted by Canadian Agencies.
- ▶ The sale of travel products through non-traditional retail outlets is another trend-setting phenomena that has emerged on the Canadian Retail Travel Services Industry. This increase in access to travel products has implications for counsellors.
- ▶ Independent agencies are also banding together under umbrella organizations such as consortia and franchises consequently increasing their buying power and access to training programs and new technologies.

Globalization

- ▶ As of 1996, there was over 4,000 IATA approved travel agencies operating in Canada. According to Statistics Canada's business services survey, Ontario dominated the market with the most travel agency firms, followed by Quebec, British Columbia and Alberta.

Regulatory

- ▶ Currently, Ontario, British Columbia and Quebec have regulations governing travel agencies. The regulations set out rules for the creation of an agency including the amount of experience required by owners prior to opening their business and a compensation fund to compensate travellers who are affected by agency bankruptcies to which all agencies within a province must contribute.
- ▶ The introduction of commission caps is considered to be the strongest indication of the evolution of relationships between suppliers and counsellors. Agencies that relied upon their commissions faced cuts to their revenue base for which they could not compensate in a short period of time. This led to the "rediscovery" of products which provide better commissions on sales such as cruises and tour packages.

Technological

- ▶ The computer and the Computer Reservation Systems (CRS) are considered to be two of the most important and influential developments of the past 20 years. The use of technology has become an integral part of it, yet, the effect of new developments on the industry is a subject of great debate.
- ▶ The Internet and Intranets, direct booking, net fares, ticketless travel and new travel outlets are changing how travel is distributed.
- ▶ Electronic ticketing, on-line booking and telephone bookings are fast becoming a reality as airlines strive to reduce costs. The effect of a ticketless environment is expected to be an increase in productivity and diminish cost.
- ▶ The volume of information available to travellers is ever-increasing as the use of new forms of media becomes more commonplace. Travel counsellors are

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CHANGE DRIVERS (continued)	<p>increasingly having to deal with information from new sources and are being asked to analyze and interpret the information for travel clients.</p> <ul style="list-style-type: none"> ▸ As a means of streamlining the management of travel in major corporations, travel management systems are being developed by a number of agencies and technology firms in order to provide an integrated, computerized travel system. ▸ Educators expect the trend towards working from home/telecommuting to grow as technology develops i.e. remote access to CRS systems and video contact. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▸ An aging Canadian population is having an impact on product development, pricing, and service levels as travel counsellors adapt to new customer expectations. Quality and service is becoming more important than price. ▸ Ecotourism and soft adventure markets are two specialized areas that are expected to increase in importance over the next few years. ▸ Health promotion, wellness, nutrition and recreational products and services are strong markets in the Retail Travel Services Industry.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▸ The Retail Travel Services Industry is comprised of establishments engaged in furnishing travel information, acting as counsellors in arranging tours, accommodation and transportation or acting as independent agencies for transportation establishment. Activities include booking accommodation and/or transportation for travellers, assisting in travel planning and providing travel information. ▸ The sector is clearly in a state of transition. There is a diversity of opinion, as to the impact of various interdependent and often conflicting trends. ▸ There are over 4,000 IATA approved travel agencies operating in Canada as of 1996. ▸ Statistics Canada's business services survey reveals that Ontario dominates the market with the most travel agency firms, followed by Quebec, British Columbia and Alberta. ▸ The majority of the employers' survey respondents (61%) reported annual sales volumes of under \$7 million. ▸ Although specialization is considered to be a future trend in the industry, less than a third of respondents to the Survey of Retail Counsellors stated that they specialized in a specific area. The most common area of specialization are tour groups (33 %), geographic specialization (24 %) and cruises (15 %). ▸ There is agreement among those interviewed that a number of agencies will cease to do business over the next few years. Those unable or unwilling to keep up to date with the latest technologies will not be able to provide an adequate level of service and will consequently lose customers and revenues.
UNIONIZATION / PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▸ The Canadian Institute of Travel Counsellors (CITC), an industry association for travel counsellors with the Certified Travel Counsellor (CTC) designation, currently has over 2,200 members. ▸ The Association of Canadian Travel Agents (ACTA) ▸ The Travel Industry Council of Ontario is a newly incorporated non-profit corporation that assumes the responsibility for the administration of the province's Travel Industry Act, including the compensation fund.

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EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ In 1994, 33,300 people were employed in all occupations in the Retail Travel Services Industry, representing 0.3% of the total Canadian labour force and 2.6% of the tourism-related labour force. ▶ The number of people in this industry has steadily increased since 1989 with the exception of 1991 in which a decrease was recorded. The demand for travel services currently remains below pre-recession high recorded in 1990. ▶ According to statistics from the 1991 Census, there were a total of 17,040 people working as travel counsellors in Canada, of which 83% are female. ▶ Over 50% of travel counsellors are under the age of 35, compared with 45% of all workers. ▶ Travel counsellors, on average, are better educated than workers in general. Census data (1991) reveals that 77% of them have some form of post-secondary education, compared with 53% of the population as a whole.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Not available
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ Programs for travel counsellors are available through community, private, and vocational colleges, universities, and other institutions. ▶ While the majority of travel counsellors holds some form of post-secondary diploma, certificate or degree, such educational qualifications are not always required to work in the industry. A college diploma or other training is listed as "usually required" to work in the industry; the only definite prerequisite is a high school diploma. ▶ Certification is available through ACCESS (ACTA/CITC Canadian Educational Standards Systems Inc.). ▶ Occupational standards have been established for travel counsellor positions. They describe the skills and knowledge needed to perform competently in the workplace and are divided into four categories: professionalism, administration, communication and travel product. ▶ The Conference Board's employability skills profile along with the occupational standards provide a complete overview of the basic skills and knowledge required to work effectively in the industry. ▶ Training opportunities designed to upgrade counsellor's skills knowledge levels are offered in varying degrees by industry employers. The most popular centre on three key areas: computer skills, customer service and sales. ▶ Industry suppliers and associations are also heavily involved in the provision of training and educational programs for travel counsellors. Through this type of training, they can effectively promote the sale of specific products.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ Educators participating in a round table session also expect the trend towards working from home or telecommuting, to grow in the future. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ Enrollment in community college programs declined slightly at the beginning of the decade, after increasing steadily in the 1980's. While enrollment levels fluctuated over the course of the last 20 years, graduation levels remained relatively steady. ▶ From the business community's perspective, educators have a role to play in ensuring that students entering travel programs have a realistic view of the industry. Executives feel that educators must do a better job in "taking the glamour out of the industry".

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**KEY HR ISSUES
(continued)**

- ▶ Many employers stated that they are beginning to expand their labour pool to include people from other industries who may not necessarily have a knowledge of the travel industry but have certain core competencies.

Training and Development

- ▶ Some of the core skills critical to future travel counsellors are: sales, customer service, and communication skills.
- ▶ For travel managers, core skills include: organizational skills, basic business administration, math skills, coaching skills, the ability to lead by example, the ability to empower employees, people management/leadership skills, presentation skills, training skills, and problem solving skills.
- ▶ Skills related to the use of new and emerging technologies such as the Internet and e-mail systems are expected to gain in importance. So are softer skills such as the ability to adapt to new situations, to work with little or no supervision, to find and retrieve information (research skills), to develop/specialize and market products, to listen (understand customer's needs), to plan (time management skills), and the ability to promote oneself while demonstrating high level of professionalism.
- ▶ The majority of travel counsellors surveyed felt that new technologies, product/destination knowledge and specialization, customer service and sales training are skills that should be taught within the continuing education framework.
- ▶ Overall, 66% of respondents indicated that they felt that schools were not prepared to deal with future changes in skill requirements, abilities and knowledge levels.
- ▶ Ways to improve partnerships between the industry and the educational system were discussed during the round table session. Amongst the avenues noted are: class presentations by employers of travel counsellors' role within the workplace, to bring student's expectations of what they can accomplish upon graduation into perspective, to keep skill requirements in line with job duties and to recognize and reward employees appropriately.
- ▶ Total annual training budgets reported by respondents to the employers' survey equalled \$2.2 million which translates into \$634 per employee. An average that is \$208 below the one recorded by the Conference Board of Canada in a recent training and development survey.
- ▶ Travel agents/counsellors noted that taking time off for training purposes was difficult because of the "commission" mind set.

Reward/Retention

- ▶ A more realistic portrayal of the industry is needed since the current reality is quite different according to industry operators and travel counsellors.
- ▶ High stress levels, and hard work are more realistic characteristics of the retail travel trade than the glamorous image that is often referred to.
- ▶ Average salary ranges for travel counsellor positions are from \$15,643 to \$19,577 for a junior leisure counsellor and from \$25,822 to \$33,002 for a senior corporate counsellor.
- ▶ The percentage of salary paid as a bonus to travel counsellor positions range from 7.4% to 18.6%.
- ▶ Designations, for the most part, provide intangible benefits to counsellors notably in the areas of personal satisfaction, a raised level of professionalism and

NOTE : Data and information presented above were current at the time of the study.

KEY HR ISSUES (continued)	peer recognition while training opportunities was stated as the most tangible benefit. It should also be noted that increases in salaries and promotional opportunities were rarely stated as a benefit of holding an industry designation.
RECOMMENDED PRIORITIES FOR ACTION	<ul style="list-style-type: none"> ▶ The CTHRC (Canadian Tourism Human Resource Council) should conduct a survey of existing training resources in order to determine what skills and knowledge requirements are currently addressed in programs for travel counsellors and students. The results should be compared to the skills requirements identified in the study and training resources should then be developed to fill the gaps. ▶ The research community should endeavour to develop a measurement of the return on investment in training for the industry in order to provide concise measures of the benefits of providing skills training to employees. ▶ Business partners should be encouraged to provide training in those areas where needs have been identified and to promote the certification of their employees in order to raise the degree of professionalism in the industry. ▶ Industry partners should be made aware of the existence of essential skills profiles and occupational standards for retail industry positions (when available) and should be encouraged to make use of these profiles and standards in their human resource planning. ▶ A forum should be created to bring together industry representatives and educators to discuss current partnership arrangements and exchange information on current trends in the industry and their impact on future skill requirements and curriculum development.
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NOTE : Data and information presented above were current at the time of the study.

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NOTE : Data and information presented above were current at the time of the study.

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MEMBERS OF THE STEERING COMMITTEE	<p>Employers</p> <p>Unions/Professional Associations</p> <p>Canadian Institute of Travel Counsellors (CITC)</p> <p>ACTA/CITC Canadian Educational Standards System Inc. (ACCESS)</p> <p>Industry Associations and Councils</p> <p>Association of Canadian Travel Agents (ACTA)</p> <p>Canadian Tourism Human Resource Council (CTHRC)</p> <p>Canadian Tourism Research Institute (CTRI)</p> <p>Travel Industry Council of Ontario</p> <p>Government</p> <p>Human Resources Development Canada (HRDC)</p>

NOTE : Data and information presented above were current at the time of the study.

SUMMARY OF THE 1994 HUMAN RESOURCES STUDY OF THE SIGN INDUSTRY

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 142 page detailed report, entitled "<i>Imagemakers: Human Resource Challenges Facing the Canadian Sign Industry</i>", was published in September 1994. ▶ The study was prepared by Price Waterhouse.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Rapid technological improvements. ▶ Increasing demand for quality products and services. ▶ Concerns regarding enforcement of regulations. ▶ Increasing need for skilled workers. ▶ International competition.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ In-depth interviews and discussions were held with more than 100 employers, managers, suppliers, union representatives, and industry associations including those conducted during 38 site visits across Canada. ▶ Three focus groups were completed: one with students enrolled in sign/sign-related college programs; one with college faculty from a sign-writing program; and another with sign shop owners/managers. ▶ A workshop was conducted with sign manufacturers and suppliers to discuss the effects of new technology. ▶ Group discussions were held with members of 4 provincial associations. ▶ 4,500 mail surveys were distributed to known firms in the sign industry, with a response rate of 22%.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ This is a small business industry experiencing relatively large growth rates. ▶ Increased competition will foster the creation of strategic alliances and will push firms to become more productive, more innovative and at the same time, more service-oriented. ▶ For large and medium-sized producers, NAFTA will result in more competition for national accounts. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ Changing municipal regulations and legislation are forcing the industry to become more proactive and involved in the community. ▶ Greater compliance to electrical standards is needed. ▶ WHMIS and other regulations concerning hazardous substances impact on the industry. ▶ New regulations relating to accommodation of persons with disabilities affecting the industry. ▶ Harmonization of Canadian Standards Association (CSA) and American Underwriters' Laboratory (UL) Standards will impact tradeability.

NOTE: Data and information presented above were current at the time of the study.

CHANGE DRIVERS (continued)	<p>Technological</p> <ul style="list-style-type: none"> ▶ Computer-assisted design and production technology is emerging and work is increasingly become automated. ▶ The emergence of affordable personal computer and design software means that people without traditional skills can manufacture simple signs. However, new competitive standards may result in a wedding of craft-based skills with production technology. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ Older workforce in the industry results in concerns about adapting to new technology and work methods, and mass retirement resulting in a loss of corporate memory. ▶ How the industry is perceived will become increasingly important in attracting scarcer youth entrants.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ The study identifies three major sub-groups within the industry: sign manufacturing (SIC 3971), outdoor advertising (SIC 7743) and sign installation. ▶ Manufacturing and service (service sector increasing). ▶ There were 655 companies in the industry in 1990 representing a 50% increase over 1970 numbers). ▶ Growth occurred in small companies. ▶ The value of shipments in 1990 was approximately \$700 million, and total revenue for outdoor display and billboard ads were \$115 million. ▶ 75% of companies employ 5 people or less, and about 40% are single person shops. ▶ 90% of shops are independent; 6% belong to a chain and just 2% are franchised. ▶ Generally speaking, the industry focusses on local markets. ▶ The industry is characterized by a mixture of new and old businesses due to frequent openings and closures. ▶ The geographic distribution of firms is such that there is a concentration in Ontario (56%), but firms are present all across Canada. ▶ The sign industry is represented by a number of provincial and national industry associations. Two national associations representing industry are the Sign Association of Canada (SAC) and the Outdoor Advertising Association of Canada.
UNIONIZATION/ PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ Only 5% of shops are unionized, and unionization is uneven across the country. ▶ Firms in BC are most likely to be unionized, and least likely in the Atlantic Region.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ A high growth rate in employment occurred between 1970 and 1990. ▶ Declines in employment occurred in 1991 and 1992. ▶ High turnover rate (employers think they are losing time and money).

NOTE: Data and information presented above were current at the time of the study.

EMPLOYMENT PATTERNS (continued)	<ul style="list-style-type: none"> ▶ Total industry employment in 1990 was 15,900 according to the survey results reported in the study. ▶ There is significant movement of people within the industry. ▶ Employment levels are expected to increase by about 10% over the next three years.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Recruitment and selection processes and training in the industry is disjointed and tend to be informal. ▶ High turnover rates impact on the commitment of employers to training and development of employees. ▶ Limited resources are available for on-going development of employees. According to survey results, 42% of respondents reported no expenditures on upgrading and development in 1992.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ The most common forms of job-specific training are on-the-job and classroom. On-the-job is most prevalent, classroom training tends to be reserved for sales and managerial staff and is used most often by larger firms. ▶ The formality of training tends to vary by the work. ▶ Two community colleges offer specific programs for the sign industry in Canada: Northern Alberta Institute of Technology (NAIT) offers a one year program called: "Graphic Sign Art"; George Brown College in Toronto offers two programs called: "Signwriting" (1 year, basic training) and "Graphic Sign Design and Production" (2 years, more advanced). ▶ The Quebec Ministry of Education developed a curriculum for a new neon tube bending program which should be available in 1995. ▶ Community colleges across the country offer a range of programs with relevance to the sign industry, such as graphic arts, electrical technology, glasswork, sheet metal and welding programs.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ Career opportunities in any one particular firm are limited, especially in smaller firms. Further limitations result as areas of work are delineated by educational and experience requirements. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ The approach to recruitment is mainly passive managers waiting for the right candidate to show up. ▶ A classical approach is used for selection of candidates. ▶ There is a need to improve interview methods, and the majority of recruitment practices which are too informal. ▶ The image of the industry may deter potential entrants. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ There is a critical requirement to develop the skills of owners and managers to manage. ▶ Computer-assisted design and production, as well as all other technological improvements, require a higher-skilled workforce.

NOTE: Data and information presented above were current at the time of the study.

KEY HR ISSUES (continued)	<ul style="list-style-type: none"> ▶ One of the most common comments made by employers and managers was that they did not have enough time to train employees. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ Not mentioned. <p>Other</p> <ul style="list-style-type: none"> ▶ Health and safety needs to be a target area for improvement.
RECOMMENDED PRIORITIES FOR ACTION	<ul style="list-style-type: none"> ▶ Management development, particularly improved skills in finance, marketing and managing technological change. ▶ A need for better management and development of the workforce. ▶ Managers must foster a climate where learning takes on a continuous basis. ▶ A more structured approach to workplace health and safety training is required. ▶ Managers need to place more emphasis on developing a workplace that reflects an image of the industry that will attract talented, skilled candidates.
TABLE OF CONTENTS	<ol style="list-style-type: none"> 1. <u>Introduction</u> <ol style="list-style-type: none"> 1.1 Study Objectives 1.2 Study Approach 1.3 Report Structure 2. <u>Signs of Transition</u> <ol style="list-style-type: none"> 2.1 Industry Profile <ol style="list-style-type: none"> 2.1.1 Signs of Growth 2.1.2 The Structure of the Industry 2.2 Pressures and Trends Shaping the Sign Industry <ol style="list-style-type: none"> 2.2.1 Market and Competitive Factors 2.2.2 Regulatory Factors 2.2.3 Technological Trends 2.2.4 Demographic Trends 2.3 Conclusions 3. <u>Vital Signs</u> <ol style="list-style-type: none"> 3.1 The Changing Nature of the Work <ol style="list-style-type: none"> 3.1.1 Marketing and Management 3.1.2 Pre-production 3.1.3 Manufacturing 3.1.4 Installation/Maintenance 3.2 Multi-skilling 3.3 Human Resource Practices <ol style="list-style-type: none"> 3.3.1 Recruitment and Selection 3.3.2 Training and Development Practices 3.4 Formal Education and Training Programs <ol style="list-style-type: none"> 3.4.1 Community Colleges Programs 3.4.2 Quebec Ministry of Education 3.4.3 Ontario Training Adjustment Board 3.5 The Workplace in the Sign Industry 3.6 Conclusions

NOTE: Data and information presented above were current at the time of the study.

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NOTE: Data and information presented above were current at the time of the study.

**MEMBERS OF THE
STEERING
COMMITTEE**
Employers

Contempra Signs
 Duchon Neon/Plastic Ltd.
 ID Signs Limited
 Enseignes Bélanger Inc.
 Excellent Signs and Displays Inc.
 Les Enseignes Média (Division des Enseignes St-Onge Ltée)
 Enseignes Trans-Canada
 Grant Sign Service Inc.
 Knight Signs Ltd.
 Mattatall Signs Limited
 Mediacom Inc.
 ND Graphic Products Limited
 Neon FX
 Neon Products Ltd.
 The Jim Pattison Sign Group
 The Sign Network

Unions/Professional Associations

Fédération de la métallurgie (CSN)
 International Brotherhood of Painters and Allied Trades

Industry Associations and Councils

Alberta Sign Association
 Association professionnelle des fabricants d'enseignes du Québec
 B.C. Electronic Sign Association
 Canadian Standards Association
 Manitoba Sign Association
 Sign Association of Canada

Educators

George Brown College
 Northern Alberta Institute of Technology

Government

Apprentice and Industry Training Development, Alberta
 Human Resources Development Canada
 Industry Canada
 Ontario Training and Adjustment Board
 Ministère de l'Éducation du Québec
 Société québécoise du développement de la main-d'oeuvre

NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1992 HUMAN RESOURCES STUDY OF THE **SOFTWARE INDUSTRY**

Note: An update of this study was released in 1995.

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 93 page detailed report, entitled "<i>Software and National Competitiveness: Human Resource Issues and Opportunities</i>", was published in 1992. ▶ The research was undertaken by Peat Marwick Stevenson & Kellogg, Abt Associates of Canada, and IDC Canada.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Lack of information identifying the magnitude and definition of software-related workers as a group.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ A literature review was conducted, and existing data was gathered from Statistics Canada, EIC and other sources to assess recent evidence related to the study issues. ▶ Seven focus groups were held in five cities and involved 58 people. ▶ Case studies were conducted of eight leading software employers which were focused on human resource challenges and methods to deal with them. ▶ A telephone survey explored issues with a representative sample of over 700 human resource executives from all sectors of Canadian industry. ▶ Representatives from fourteen educational institutions were interviewed in-person and by telephone concerning a subset of issues. ▶ Ten hiring firms were interviewed (those who hire from the sampled educational institutions) to obtain their views on a comparable subset of issues. ▶ The Labour Market Activity Survey (LMAS), conducted by Statistics Canada, was analyzed to detail the experience of software-related workers. ▶ Employment and Immigration Canada held focus groups with students from high schools, colleges and universities.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ Globalization of technology and computer industry. ▶ Software as a competitive lever for many sectors. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ Not mentioned. <p>Technological</p> <ul style="list-style-type: none"> ▶ Rapidly changing technology and skill requirements of software-related jobs. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ Current and worsening shortage of software workers.

NOTE: Data and information presented above were current at the time of the study.

CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ This is a service sector. ▶ The sector study identified two distinct branches - in-house information systems departments within large organizations (e.g. banks, government, hospitals, manufacturers), and software developers/consultants/high tech companies whose primary business is software development. ▶ The in-house software industry is 30% foreign-owned and these tend to be large companies with more than 100 employees. ▶ Firms specializing in software are primarily Canadian-owned and tend to be small firms with less than 20 employees. ▶ There are 10,000 small firms specializing in software and thousands (exact number unknown) of large firms with in-house software departments. ▶ There is geographic distribution across Canada, with concentration in Ontario and Quebec.
UNIONIZATION/ PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ The industry is non-unionized. ▶ The Canadian Information Processing Society is a professional association representing computer and software professionals.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ The total employment level in 1991 was estimated at 150,000, with one-third of employment in software specialist firms, and two-thirds of employment in in-house software departments of organizations. ▶ The projected employment growth is 20% for software specialist firms and 5% for in-house software departments. ▶ The skill sets for employees working in software specialist firms include highly technical skills and knowledge, and involvement in research and development of leading edge technologies/products ▶ The skill sets of employees working in in-house software departments include: design, development, implementation, testing, documentation and maintenance of computer systems to manage business functions such as payroll, accounting, manufacturing processes, client communications and so on ▶ Predominantly full-time work but with independent contractors. ▶ Provincial employment jurisdiction. ▶ The workforce is predominantly comprised of white males; only 30% females. ▶ There is no clear definition of the software profession and therefore very little data exists on workers in the industry. ▶ Major occupations of workers in the in-house software specialist firms include: graphics software designer, software tester, applications engineer, systems integrator, systems architect, and business analyst. ▶ Major occupations of workers in an in-house software departments include: programmer, systems analyst, end-user support, and business analyst.

NOTE: Data and information presented above were current at the time of the study.

EMPLOYMENT PATTERNS (continued)	<ul style="list-style-type: none"> ▶ Employees in software specialist firms are generally under 30 years of age, with earnings higher than the national average for white-collar professionals, and most are university educated. ▶ Employees of in-house software departments are typically between 30 and 45 years of age and the primary source of entrants is from community colleges; they may also be self-taught.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Not mentioned.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ University computer science programs are the primary sources of new entrants into the software industry, followed by community colleges and CEGEPs. ▶ Training of new and existing workers is more likely with the larger firms, and new entrants usually receive training to specialize their skills and knowledge to the particular product/technology of the firm. ▶ Most training is on-the-job because employers place a high value on experience as an attribute of software workers. Other training activities include workplace training, and classroom training. ▶ Some industry-education links are in place such as co-op programs, and loans of equipment to schools e.g. IBM. ▶ Declining enrolments in computer science programs combined with growing demand imply future supply shortages.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ Not mentioned. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ The software industry is facing a serious image problem. Many high school/college students are reluctant to enter the field based on inaccurate impressions of the tasks, skills, work environment and compensation. ▶ 25% of software specialist firms have job vacancies for three or more months, indicating shortages of available applicants. ▶ There is a need to improve the representation of women in the industry as women represent only 30% of software workers. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ Workers within in-house software departments are facing changing skill set requirements. Many mid-career professionals have technical knowledge which is becoming obsolete and have inadequate business-related skills. Training for these workers is presently inadequate. ▶ The amount of training time per employee is low given the technical nature of the work and the rapid changes in technology. ▶ Training is focused on meeting short-term needs rather than long-term career development.

NOTE: Data and information presented above were current at the time of the study.

KEY HR ISSUES (CONTINUED)	<ul style="list-style-type: none"> ▶ Training and upgrading is crucial to the industry given rapid changes in technology, yet emphasis and value is placed on experience rather than training. Reward/Retention <ul style="list-style-type: none"> ▶ There is a high level of worker mobility within the industry.
RECOMMENDED PRIORITIES FOR ACTION	<ul style="list-style-type: none"> ▶ Assess computer-related programs and courses within high schools. ▶ Expand post-secondary computer-related programs to increase the supply of graduates. ▶ Improve the image which youth has of the software industry. ▶ Develop an industry strategy for recruitment which may include aggressive approaches to providing places at colleges/universities, reassessing immigration policies, and enhancing ties between industry and educational institutions. ▶ Improve access to the industry for women and other non-traditional groups. ▶ Focus on training and retraining for impending plateauing of mid-career professionals from in-house software departments. ▶ Develop a definition of the software profession and develop longer-term HR strategies at the national and organizational levels. ▶ Develop better national tracking of trends, activities and practices within the industry.
TABLE OF CONTENTS	<ol style="list-style-type: none"> I. <u>Highlights</u> Software as an economic sector Software as a tool for competitive advantage Study Conclusions II. <u>Background</u> Study Rationale Methodology and Study Process III. <u>Software in Canada: An Overview</u> The History of the "Software Industry" Trends Shaping the Software Sector Demographic and Employment Trends The Interaction of Supply and Demand IV. <u>Workers within the "Software Industry" Segment</u> Demand for software-related workers in the software industry V. <u>Workers within the "In-House" Segment</u> Demand for software-related workers, in-house organizations VI. <u>Training and Education of Software Workers</u> Education of software-related workers Incidence of training Form and magnitude of training Some employers provided new skills training Only a few employers have a full-time trainer Training challenges

NOTE: Data and information presented above were current at the time of the study.

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NOTE: Data and information presented above were current at the time of the study.

**MEMBERS OF THE
STEERING
COMMITTEE****Employers**

Ms. Anne McKague and Associates
Heron Technology Corp.
IBM Canada Ltd
John Dickinson & Co.
Netron Inc.
Xerox Canada
E.D.S. of Canada Ltd

Unions/Professional Associations

Canadian Information Processing Society

Industry Associations and Councils

Canadian Advanced Technology Association
Information Technology Association of Canada

Educators

Seneca College
University of Ottawa

Government

Ministry of Industry, Trade & Technology, Ontario
Supply and Services Canada
Industry Canada

NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1995 UPDATE TO THE SOFTWARE HUMAN RESOURCES STUDY

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▸ A comprehensive sector study of the human resource issues facing software workers in Canada was published in December 1991, entitled: "<i>Software and National Competitiveness: Human Resources Issues and Opportunities</i>". ▸ As a result of the study, the Software Human Resource Council (SHRC) was formed to address key issues around the skills and availability of software workers in Canada. ▸ An update was commissioned by HRDC in conjunction with the SHRC, to track changes in the demand for software workers. The update was undertaken by ABT Associates and completed in 1995.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▸ Since the sector was completed in 1991, numerous changes have occurred in the information technology industry and amongst employers and governments. ▸ As the work of the Software Human Resource Council was founded on the results of the 1991 sector study, and given the fast-paced change in the sector itself, it became necessary to update the original estimates of the demand for software professionals.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▸ Personal telephone interviews, supported by a sophisticated computerized survey system, were used to conduct the study with 303 organizations. Data were also taken from government statistics and from documents produced by Dun and Bradstreet and International Data Corporation.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▸ The software industry in Canada has enjoyed and is projected to enjoy continued strong growth through to the end of this decade. ▸ Annual growth rates from 1994 to 1996, were projected to average 16.7% for the software industry as a whole. <p>Globalization</p> <ul style="list-style-type: none"> ▸ Since the 1991 sector study, most Canadians have become very aware of the "global economy" and the pivotal role of computing and telecommunications in facilitating both business growth and education. <p>See Summary of the 1991 study of <i>Software and National Competitiveness: Human Resource Issues and Opportunities</i> for a further discussion of economic/market, regulatory and social/demographic change drivers affecting software employment.</p>
CHARACTERISTICS OF THE INDUSTRY	<p>The software industry was defined for the purposes of the study as having three distinct sub-sectors:</p> <ul style="list-style-type: none"> ▸ product – those who develop software products for sale outside the firm; ▸ embedded – those who embed software in a product for sale outside the firm; ▸ service – those who provide software-related services for sale outside the firm. <p>Additionally, software employment includes "in-house" software workers who work in the information systems organizations of all companies, such as banks, manufacturers, and governments.</p>
UNIONIZATION / PROFESSIONAL ASSOCIATIONS	<p>See Summary of the 1991 study of <i>Software and National Competitiveness: Human Resource Issues and Opportunities</i>.</p>

NOTE : Data and information presented above were current at the time of the study.

EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▸ Data from the 1995 survey show that the job market in the software industry is on a “fast-track” and will continue to grow in Canada, increasing from 173,000 workers in 1994 to an anticipated 325,000 in 1999. ▸ While the 1991 study reported that of the 150,000 software workers, about 100,000 were employed by in-house computer services, and 50,000 were in the software industry, by 1994, there had been a major shift in the areas of employment. ▸ Of the 173,000 software workers employed in 1994, 120,000 worked in the software industry and 53,000 in in-house computer services – a virtual reversal of the previous proportions. ▸ There is increasing overlap between the sub-sectors in the software industry (software product, integrated software and computer consulting services firms), with an increasing number of firms engaged in two or more areas of business activity. ▸ As of 1994, there were 12,650 companies in the software industry, of which 9,600 had fewer than 10 employees. ▸ Fifty-one percent of software industry firms contacted, reported contracting-out for additional computer services. Sixty-two percent of firms in the in-house computer services sector used contracting-out. ▸ The survey also reports that the incidence and number of unfilled positions is high (almost half of software product firms reported such vacancies).
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▸ See Summary of the 1991 study of <i>Software and National Competitiveness: Human Resource Issues and Opportunities</i>.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▸ See Summary of the 1991 study of <i>Software and National Competitiveness: Human Resource Issues and Opportunities</i>.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▸ See Summary of the 1991 study of <i>Software and National Competitiveness: Human Resource Issues and Opportunities</i>. <p>Recruitment</p> <ul style="list-style-type: none"> ▸ See Summary of the 1991 study of <i>Software and National Competitiveness: Human Resource Issues and Opportunities</i>. <p>Training and Development</p> <ul style="list-style-type: none"> ▸ The vacancy rate suggests that present workforce training channels are once again not meeting current demands for software professionals. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▸ See Summary of the 1991 study of <i>Software and National Competitiveness: Human Resource Issues and Opportunities</i>. <p>Other</p> <ul style="list-style-type: none"> ▸ The shortage of software workers is growing more acute. It is expected to reach 12,000 workers by 1995. ▸ The shortage of skills among software workers in in-house computer services is also increasing.

NOTE : Data and information presented above were current at the time of the study.

RECOMMENDED PRIORITIES FOR ACTION	<ul style="list-style-type: none"> ▸ Synergy and change in the software industry and its sub-sectors is gaining momentum and will continue to grow. This phenomenon requires a growing capacity to adapt to new markets, new products and new workplaces on the part of employers and workers. ▸ If service providers wish to profit from the current trends in contracting-out, they will need to take the necessary steps to ensure a reliable supply of qualified software workers. ▸ The number of vacant positions reported by employers has increased enormously over the three-year period (1991-94). In order to combat this trend, concerted efforts must be made to increase the supply of software workers. More software workers will have to be trained, either through the education system or by upgrading existing workers.
TABLE OF CONTENTS	<ol style="list-style-type: none"> 1. Executive Summary 2. Background: The 1991 Study 3. The Importance of Software Skills to Canada's Economy 4. The 1995 Update <ul style="list-style-type: none"> ➤ Purpose of the Project ➤ Employment Growth of Software Workers ➤ Employment Estimates ➤ Employment Related Issues 5. Conclusions/Implications <p>Appendices</p> <ol style="list-style-type: none"> A. Methodology for this Project B. The Software Human Resource Council
LIST OF TABLES/ GRAPHS	<p>Table: Employment by Sub-Sector and Company Size</p> <p><i>Exhibit IV – 1 Employment Levels 1992</i></p> <p><i>Exhibit IV – 2 Employment Levels 1993</i></p> <p><i>Exhibit IV – 3 Employment Levels 1994</i></p> <p><i>Exhibit IV – 4 Employment Levels 1996</i></p> <p><i>Exhibit IV – 5 Employment Levels 1999</i></p> <p>Table: Annual Growth Rates by Sub-Sector (1992-1999)</p>
MEMBERS OF THE STEERING COMMITTEE	<p>Software Human Resource Council</p> <p>Human Resources Development Canada</p>

NOTE : Data and information presented above were current at the time of the study.

SUMMARY OF THE 1996 HUMAN RESOURCES STUDY OF THE TELECOMMUNICATIONS INDUSTRY

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 273 page detailed report, entitled "<i>The Human Resources Study of the Canadian Telecommunications Industry... an Enabler of Business Activity and Human Interaction</i>", was released in the fall of 1996. ▶ The research was undertaken by KPMG Management Consulting with Pacific Leadership Inc., Tech Team Management and Abt Associates.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Recognizing that the skills, quality and management of its human resources are vital to its continued success, the telecommunications industry decided to conduct a major study to identify the industry's human resource challenges and priorities, and to craft strategies to address them.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ The study was directed by a 25 member steering committee composed of industry/union leaders, educators and government. Six steering committee meetings were held from March 1995 to February 1996. ▶ The first phase included an analysis of business trends and potential future scenarios, analysis of the implications of changing technology and employment projections. ▶ The second phase analyzed the human resource issues facing the industry which involved interviews with 30 companies, a mail survey sent to 200 companies, case studies of 8 organizations, interviews with 30 union officials, interviews with 25 educators, 6 focus groups with industry employees, and an industry-wide forum to validate findings. ▶ Throughout this project, there has been a process of consultation with employers, industry experts, employees, educators, unions, government and other stakeholders. This has included regular review meetings with a steering committee composed of representatives of most of the main stakeholder groups, an issues forum at which industry representatives debated the business trends and issues, and a national roundtable at which a cross-section of people from the industry reviewed the preliminary findings from the study and worked together on a vision and action plans for the future.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ Faced with static or slow growth in sales, service companies are diversifying into new services and are taking equity positions in international ventures. ▶ Structural separation of the long distance and local access businesses of the service companies. ▶ Robust global growth in demand for telecommunications equipment. ▶ Establishment/expansion of cable networks in many countries. ▶ Erosion of "national champion" buying policies, opening up many formerly closed equipment markets to competition. ▶ Privatization of formerly public telecommunications services.

NOTE: Data and information presented above were current at the time of the study.

CHANGE DRIVERS (continued)	<p>Regulatory</p> <ul style="list-style-type: none"> ▶ An intense period of regulatory review and revision is underway which will result in a new set of rules for fostering new forms of competition in the long distance, local access and cable services markets, and ensuring adequate competition safeguards are in place. ▶ Questions remain as to whether foreign ownership limits will be relaxed. <p>Technological</p> <ul style="list-style-type: none"> ▶ The introduction and adoption of new wireless and interactive broadband technologies. ▶ There are falling unit costs as a result of technological innovation. ▶ There is growing demand for high bandwidth services, linked to the spread of networks, multimedia products and the Information Highway. ▶ The introduction of sophisticated switching and transmission technologies reduces the need for preventative maintenance. ▶ Introduction of key technologies: ATM switch, photonic switching, digital subscriber line technologies, fibre optic transmission systems, satellite technologies, personal communications systems, telephony on CATV cables, equipment manufacturing technologies and the Information Highway. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ The average age of employees in some of the large telcos is 40+; many have long service and fully funded pensions. One large organization estimates that 70% of its existing workforce could retire within the next ten years.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ The telecommunications industry was defined for the purposes of this study to include providers of telecommunications services (telephone companies, alternative service providers, cable television and satellite services) and manufacturers of telecommunications equipment. These organizations form the core of the industry and were the primary focus of the study. (SIC) group 482 - Telecommunication Carriers Industry and SIC group 335 - Communications and Other Electronic Products Industries. ▶ The sector employed over 169,000 people in 1991 and in 1993 the total market for equipment and services was estimated at \$21.5 billion. ▶ The industry has very flexible boundaries due to the convergence of the basic technologies, the development of new services and service providers and new corporate structures involving strategic alliances and joint ventures. ▶ The scale, complexity and speed of change in the industry are spectacular. The industry is expanding and contracting at the same time. ▶ The dynamic nature of the industry, and associated impacts on the way work is organized and managed, poses real challenges for classifying, measuring, analyzing and monitoring employment in the industry. ▶ Business trends in the services sector include the importance of telecommunications as a fundamental enabler of national competitiveness and social interaction, competition, regulatory revision, globalization, commoditization of bandwidth, uncertain investment, and improved operating efficiencies.

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CHARACTERISTICS OF THE INDUSTRY (continued)	<ul style="list-style-type: none"> ▶ Business trends in the telecommunications equipment manufacturing sector include fewer barriers to entry in many national markets, strong growth in world market, shifting balance between price and performance, consolidation, rationalization, shorter product development time lines and product life cycles, and mixed opportunities depending upon labour costs.
UNIONIZATION / PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ Thirteen unions represent a significant portion of the industry's workforce (about 62% of the telephone companies, 20% of the manufacturing sector in 1991) in all of its sectors. ▶ The top two unions are the Communications, Energy and Paperworkers Union of Canada, and the Telecommunications Workers Union. ▶ Job security, due to restructuring and downsizing, is the number one issue. ▶ New technology, enhanced systems, changes in work organization and the demand for increased flexibility are creating numerous situations where work now falls to employees outside of the bargaining unit. ▶ Inter-union cooperation to solve problems, such as the need for retraining, or to provide access to jobs for displaced workers, is difficult to achieve. ▶ Challenges are being made to traditional union principles and contract provisions due to the drive for flexibility and competitiveness.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ Total employment in the industry was 169,000 in 1991; 125,000 (74%) carriers, 44,000 (26%) manufacturing. Total employment declined to 154,000 in 1995; most of this employment loss (13,000) occurred in the services sector. ▶ Occupational groups experiencing significant losses during this period include clerical, equipment installation/repair, managers, telephone operators and fabricating/assembly. Occupations growing the most include sales, electronic engineers and computer specialists. ▶ If present trends continue, total employment in the industry is expected to decline to 144,000 during the period of 1995-2000. Consensus does not exist on employment trends due to the uncertainty surrounding competition between carriers and the cable industry. Most of the job losses will be in the services sector, especially in large telcos, many of which continue to downsize aggressively. The occupations expected to contract and grow are as listed above. ▶ Employment in some parts of the industry, such as manufacturing, R&D and service sectors related to wireless communications and specialized services, is expanding rapidly. ▶ The scale, complexity and speed of change in the industry are spectacular. The industry is expanding and contracting at the same time. Large numbers are facing early retirement, re-assignment or redundancy. Simultaneously, new market opportunities are emerging such as interactive and multi-media communications and cellular networks; new divisions, separate new companies, or joint ventures are appearing and creating new job opportunities but often with different skill and knowledge requirements.

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EMPLOYMENT PATTERNS (continued)	<ul style="list-style-type: none"> ▶ Employment in the industry is characterized by: chaos and uncertainty, jobs becoming concentrated in major centres, fear and excitement, insecurity and stress, the search for competitive advantage, and a continued transition from low-skilled to high-skilled jobs. ▶ Massive cultural changes underway. The shift to a more customer-focused way of doing business, the advent of competition in some sectors of telephone services and the continuing pressures of the global market for equipment conspire to bring about fundamental and far-reaching change in the culture of almost every firm in the industry. ▶ The major telephone companies face huge challenges in overcoming inertia to create customer-focused, cost-effective and adaptive organizations. ▶ Smaller firms in all sectors are demonstrating that they are better able to cope with the challenge of creating and sustaining a culture that is adaptive and responsive to change. It is easier to communicate in smaller firms because there are fewer levels of management, less bureaucracy and fewer rules. ▶ Because they have not been shielded by regulation, companies in the manufacturing sector are generally better prepared for and experienced in adaptation and change.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Effective human resource management is increasingly seen as a critical tool to gain strategic advantage. ▶ Continuous learning and Total Quality are now firmly embedded in the thinking and fabric of many firms. ▶ Competency-based models for performance development are fast becoming the industry standard. This system offers a means of integrating human resource planning, recruitment and selection, performance management, training and compensation and linking them closely with the organization's strategic goals. ▶ Preparing a business case is becoming an essential skill for human resource specialists. ▶ Human resource development departments and staff are being transformed from subject matter experts and trainers into performance coaches and organization improvement specialists.
TRAINING AND DEVELOPMENT PATTERNS	<p>Industry</p> <ul style="list-style-type: none"> ▶ Overall, the industry has enjoyed an excellent reputation for the amount and quality of training provided to employees; it is clear that the industry continues to be a leader in this respect. (refer to case studies contained in main report). ▶ Most firms have reduced their spending on training, with the exception of some rapidly growing manufacturing or technology firms. ▶ Many firms have become much more business oriented or strategically focused in their training activities. ▶ Re-training is inconsistent and does not reach some segments of the workforce; little is being done to train displaced and under-skilled employees. ▶ As training budgets shrink, more of the cost of personal development is falling to employees.

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TRAINING AND DEVELOPMENT PATTERNS (continued)	<ul style="list-style-type: none"> ▶ Non-traditional methods are beginning to revolutionize training such as computer-based training, multi-media, internal television and conference systems. ▶ Training designs are becoming much more specific in support of specific business unit objectives. <p>Education System</p> <ul style="list-style-type: none"> ▶ The education system is improving, but is not meeting the full needs of the industry. ▶ The supply of suitably qualified graduates falls short of industry expectations. ▶ The non-technical components are increasingly in demand. ▶ Educators disagree about the role and purpose of education. Structure, politics and competition for resources get in the way. ▶ Funding is a major issue. ▶ The value of co-op programs is universally recognized. ▶ Innovation and collaboration point the way to the future.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ Management positions have declined in numbers quite dramatically in the last few years. ▶ Business process re-engineering has resulted in the elimination, amalgamation, and integration of functions; downsizing and restructuring in general have also resulted in flatter, slimmer management structures, with broader spans of control. ▶ The move toward empowered work teams, self-directed work teams and collaborative/participative approaches has changed the nature of management work in fundamental ways; the manager becomes a coach and learning resource, a facilitator, resource planner and interface between the team and the rest of the organization. ▶ Employee involvement in workplace decision making is increasing, but most efforts are tentative and fall short of employee expectations <p>Recruitment</p> <ul style="list-style-type: none"> ▶ Several firms in the manufacturing sector indicate that their growth is severely restricted by their ability to hire qualified staff. Overseas operations are required to attract qualified people in other geographic areas. ▶ There is very active competition between Canadian firms for qualified staff, but a growing and potentially very serious threat to the industry is the increased competition for key technical staff from outside Canada. ▶ Competition for graduates fresh from university is also becoming more intense. ▶ Small firms often face several more obstacles due to limited financial resources. ▶ Among the larger and medium sized firms there is competition for graduates from colleges, universities and high schools.

NOTE: Data and information presented above were current at the time of the study.

KEY HR ISSUES (continued)	Training and Development <ul style="list-style-type: none"> ▶ Managers are poorly prepared for their new and future roles; the new competencies are alien to a large number of managers whose careers have been spent in large, bureaucratic and highly structured organizations. Reward/Retention <ul style="list-style-type: none"> ▶ Not mentioned.
RECOMMENDED PRIORITIES FOR ACTION	<ul style="list-style-type: none"> ▶ Establish an industry-driven telecommunications Human Resource Council. ▶ Emphasize the strategic role and value of human resource management. ▶ Communicate fully. ▶ Develop and introduce an industry adjustment program. ▶ Generate better information on employment trends. ▶ Form an alliance of employers to address short-term staffing needs. ▶ Explore options for encouraging employee mobility: portable benefits and credits for skills. ▶ Adopt non-traditional forms of employment to improve workforce flexibility. ▶ Renew commitments to workforce diversity and employment equity programs. ▶ Aggressively expand workplace cooperation. ▶ Invest strategically to develop a more responsive post-secondary education system. ▶ Replicate and extend successful industry-education partnerships. ▶ Increase investments in retraining and multi-skilling activities. ▶ Increase the use of technology-based delivery systems for training and education. ▶ Recognize the special training needs of smaller firms.
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NOTE: Data and information presented above were current at the time of the study.

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NOTE: Data and information presented above were current at the time of the study.

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MEMBERS OF THE STEERING COMMITTEE	Employers/Industry Representatives Northern Telecom Limited Stentor Telecom Policy Inc. BCTel NBTEL Bell Canada Telesat Canada Ericsson Communications Inc. Newbridge Networks Corporation Nortel Technology Unions/Professional Associations Communications, Energy & Paperworkers Union of Canada Telecommunications Workers Union Industry Associations and Councils Canadian Cable Television Association The Sectoral Skills Council Software Human Resource Council Canadian Council of Technicians & Technologists Educators Collège Édouard-Monpetit Ryerson Polytechnic University University of Waterloo Government Ministère de l'Industrie, du Commerce de la Science et de la Technologie, Quebec Ministry of Economic Development, Trade and Tourism, Ontario Industry Canada Human Resources Development Canada

NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1996 HUMAN RESOURCES NEEDS ANALYSIS OF THE **TEXTILES INDUSTRY**

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 48 page detailed report, entitled "<i>Human Resource Needs Analysis of the Canadian Textile Industry - Investing in People</i>", was published in 1996. ▶ The research was undertaken by the Price Waterhouse consulting firm in cooperation with the Textiles Human Resources Council (THRC).
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Evaluate the skill level of the labour force in the Canadian textile industry to identify the predominant needs in training and professional development. ▶ Provide the THRC with the tools and information necessary to develop and implement a strategy designed to meet the needs identified with regard to training and development.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ The study has five modules that enable the reader to identify the skills, deficiencies and needs of the industry with regard to training and development. ▶ The profile of the labour force structure is based on sources such as the National Occupational Classification, as well as on interviews with key stakeholders in the industry. ▶ Secondary sources of information, combined with interviews and surveys, enabled definition of current professional groups and job categories and to sketch a profile of the skills and qualifications of the industry's labour force. ▶ In all, 378 questionnaires were mailed to the companies of all sizes that make up the industry. The response received represents more than 30% of the industry's total workforce, or 14,471 employees. ▶ The study's main purpose was to determine the kind and extent of training and development requirements within the industry, in the short and long run.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ The new NAFTA and GATT free-trade agreements represent significant challenges as well as worthwhile business opportunities in terms of the types of goods produced and the export markets. ▶ The demand for new so-called technical or engineering textiles has increased sharply. ▶ New and increased requirements from clients, consumers and new markets in terms of quality, quantities, prices, delivery deadlines and versatility of products. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ Not mentioned. <p>Technological</p> <ul style="list-style-type: none"> ▶ Rapid and widespread introduction of electronics and robotics: in production processes and operations; management of orders and stocks; and planning and control of production, finances and accounting. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ Not mentioned.

NOTE: Data and information presented above were current at the time of the study.

CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ Mainly consists of companies working in Group 18 (primary textile industries) and Group 19 (textile products industries) of the Standard Industrial Classification (1980). ▶ The industry is highly diversified in terms of company size, range of products offered, length of time in business and the pace at which change is taking place. ▶ Operations in the sector are concentrated to a very large extent in Quebec and in Ontario: forty-six percent of companies in the sector are in Quebec and 34% are in Ontario and fifty-three percent of sector shipments come from Quebec and 37% from Ontario. ▶ Close to 80% of the sector's companies have been in business for over twenty years. ▶ Many small communities depend in whole or in part on companies in this sector, as they are a primary source of employment. ▶ Currently, the industry sells 75% of its production to the Canadian market. Less than 5% is destined for foreign markets. ▶ Five years from now, 76% of sector companies expect to be selling more to the United States. ▶ In 1988, only 11% of shipments were exported, with the rest being marketed in Canada; in 1994, however, 20% of shipments were exported. ▶ Textiles are used not only for producing garments (35%), but also for a vast range of industrial products (20%) and domestic products (45%). ▶ The growth currently experienced in the textile industry is specifically attributable to the strong demand for textile products for industrial and engineering uses. ▶ Demand is expected to increase 10% over the next 10 years.
UNIONIZATION/ PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ The sector is highly unionized.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ There are a total of 48,000 jobs in the Canadian textile industry; 52% are in Quebec and 37% are in Ontario. ▶ More than 55% of the industry workforce is employed as production workers. ▶ The number of jobs should remain stable over the next few years. However, because of the aging of the workforce in general, the industry should continue to hire new applicants because it is anticipated that a larger production and marketing/sales workforce will be needed. It is also anticipated that fewer managers and supervisors will be needed. ▶ A large proportion of the industry's labour force (56%) is between the ages of 35 and 44. ▶ Sixty percent of the industry's workers are men, and 40% are women. With the exception of bleaching/dying activities and foremen positions, where men respectively represent 86% and 75% of the workforce, the types of jobs occupied by men and women seem to be divided about equally.

NOTE: Data and information presented above were current at the time of the study.

EMPLOYMENT PATTERNS (continued)	<ul style="list-style-type: none"> ▶ Generally speaking, the industry's workforce seems to be very poorly educated. Close to half of sector workers have no diploma or certificate: over 40% of the production workers have no high-school diploma; twenty-eight percent of the maintenance workers have a college diploma; thirty-eight percent of supervisors have a college-level diploma; and, fifty percent of managers and professionals in the industry have a B.A. degree.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Textile businesses generally favour hiring employees who have experience in the textile industry. ▶ Recourse to foreign labour is rare, although possible in the case of very specialized technical positions, such as dyers and finishers. ▶ Companies in the sector usually favour promoting from within.
TRAINING AND DEVELOPMENT PATTERNS	<p>Overall</p> <ul style="list-style-type: none"> ▶ On-the-job training is the most widely used means for training production and maintenance staff so that they can access new functions. ▶ Training priority is given to production and maintenance personnel. ▶ Available training programs consist mainly of in-class periods or seminars and offer very few hands-on exercises. ▶ Training that is developed and given in-house is preferred by workers in all job categories, except for managers and maintenance staff, who usually turn to specialized firms and educational establishments. ▶ The industry has a tendency to rely on manufacturers and equipment suppliers to provide training for new equipment. Training is often given to one employee who, in turn, trains other employees. ▶ At present, the only complete program of studies leading to a college-level diploma in the textiles field is being offered at the St-Hyacinthe CEGEP. There is no comparable program elsewhere in Canada or in a language other than French. ▶ The THRC has designed and presented a few upgrading seminars for employees currently in the industry. The seminars offered can be adapted to the needs of a particular business or can be given to the industry as a whole. <p>By Occupational Group</p> <ul style="list-style-type: none"> ▶ The production staff members receive most of their training in-house and on the job in a more or less informal way. ▶ Managers and professionals require training in less technical fields. They must acquire skills relative to management and the growth of the organization: leadership, communication, management of change, problem solving, developing and formulating a vision, integrated quality management and knowledge about competitors. ▶ Supervisors require broader and more diversified training. Besides the technical skills usually required for the job, supervisors must have a solid understanding of the entire production process, as well as of personnel management, communication, team work, leadership, problem solving and supervisory techniques.

NOTE: Data and information presented above were current at the time of the study.

TRAINING AND DEVELOPMENT PATTERNS (continued)	<ul style="list-style-type: none"> ▶ The marketing and sales staff have very special training needs. They must have an excellent knowledge of languages and the current marketing practices that have been established in the wake of changes occurring within the context of new trade agreements (GATT, NAFTA): foreign languages, international marketing practices, understanding of the new business environment, ability to decode and send market signals to decision makers and better technical knowledge of products and the production process. ▶ The production staff should know more than just production processes and procedures: reading/writing/math, verbal communication, health and safety, integrated quality management, and team work. ▶ The maintenance staff must have broader knowledge and skills: better understanding of production processes and procedures, electronic/mechanical/pneumatics, integrated quality management, and just-in-time production processes (JIT). ▶ The administrative staff requires training in communications as well as in functions that support production.
KEY HR ISSUES	<ul style="list-style-type: none"> ▶ The industry's image is a strong deterrent to attracting qualified candidates. Technicians and students do not see it as a career option. ▶ Training is often offered in response to the introduction of new technologies and is usually "too little, too late". ▶ Limited financial resources, as well as a lack of knowledge within the organization, are significant obstacles to training within companies. ▶ There is a real reluctance when training requires the temporary withdrawal of an employee, or requires travel. This is a major obstacle for companies located in small communities, far from large centres.
RECOMMENDED PRIORITIES FOR ACTION	<ul style="list-style-type: none"> ▶ Enhance the image of the industry by making students aware of the possibility of pursuing careers within the specialized labour force of the textile industry. ▶ Offer continuing, and structured, training to employees who are already working in order to raise the general level of skills and the multi-skilling of all staff in the industry. ▶ Increase basic knowledge (reading, writing, mathematics, etc.) as well as skills related to integrated quality management so as to facilitate the transition of the industry's workforce towards new organizational models and the adoption of new technologies. ▶ Prepare supervisory staff so that they can be in a position to support production and maintenance staff in the decision-making process. ▶ Urge marketing/sales staff to adopt a client/market-driven approach. Develop their skills at decoding the trends/needs of the market and at identifying new business opportunities (markets, partnerships, clients) especially regarding international markets. ▶ Empower industry executives and managers to develop an entrepreneurial vision that will lead to the adoption of new ways of doing things. ▶ Use training strategies for trainers to ensure the effective transfer of information to all the staff in the company, especially the production staff.

NOTE: Data and information presented above were current at the time of the study.

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NOTE: Data and information presented above were current at the time of the study.

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NOTE: Data and information presented above were current at the time of the study.

MEMBERS OF THE STEERING COMMITTEE	<p>Employers</p> <ul style="list-style-type: none"> Barrday Inc. BASF Canada Inc. Britex Ltd. Dominion Textile Inc. Dominion Yarn Inc. Hartford Fibers Ltd. J.L. de Ball Canada Inc. Tiger Brand Knitting Co. Ltd. <p>Unions/Professional Associations</p> <ul style="list-style-type: none"> Amalgamated Clothing and Textile Workers' Union Fédération des Syndicats du textile et du vêtement (C.S.D.) Inc. United Textile Workers of America <p>Industry/Employer Associations and Councils</p> <ul style="list-style-type: none"> Canadian Carpet Institute Canadian Textile Institute Textile Federation of Canada Textiles Human Resources Council <p>Educators</p> <ul style="list-style-type: none"> Collège de Saint-Hyacinthe Mohawk College <p>Government</p> <ul style="list-style-type: none"> Human Resources Development Canada Industry Canada Société québécoise de développement de la main-d'oeuvre (Gouvernement du Québec) Ministère de l'éducation du Québec Ontario Training and Adjustment Board
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NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1990 HUMAN RESOURCES STUDY OF THE **TRUCK TRANSPORTATION INDUSTRY**

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 117 page detailed report, entitled "<i>Canadian Trucking Industry, Human Resource Challenges and Opportunities</i>", was published in 1990. ▶ The research was undertaken by Price Waterhouse with ADI Limited.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ A perceived shortage of drivers.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ The research emphasized qualitative techniques with multiple lines of evidence in order to ensure that all issues were covered and that key issues were well explored and understood. This report summarizes findings from: <ul style="list-style-type: none"> - a review of published documentation; - special tabulations of existing employment and labour force data relevant to the trucking industry; - qualitative forecasts of industry prospects by a panel of industry representatives; - 35 in-depth interviews with key informants in the industry, including employers, unions, training institutions, trucking insurance carriers, trucking manufacturers, temporary agencies; - numerous telephone interviews with stakeholders in the industry as follow-up on various issues discussed in the in-depth interviews; - numerous informal interviews with truck drivers, non-unionized and unionized; - the development of six case studies of training initiatives and of firms' human resource management strategies. The case studies describe organizations, identified by industry peers as having taken positive action to grapple with these issues. While the actions have had varying degrees of success, the initiatives illustrated a recognition of the problem(s) and methods chosen to address current human resource concerns; - six focus group discussions, including two discussions with potential industry employees (high school students), students undertaking truck driver training at a private institution, driver trainers, unionized drivers and owner-operators; and - information and feedback received from the steering committee members.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ Economic deregulation reduced restrictions on competition among carriers. ▶ High volume activity and anticipated expansion with FTA. ▶ An increased trade activity associated with globalization of markets. ▶ Intermodal competition/collaboration. ▶ There is price competition among carriers, tight profit margins. ▶ There is a pattern of mergers and acquisitions.

NOTE: Data and information presented above were current at the time of the study.

<p>CHANGE DRIVERS (continued)</p>	<p>Regulatory</p> <ul style="list-style-type: none"> ▶ Tighter regulation on safe trucking operations, including transportation of dangerous goods, hours of service, and drug testing. ▶ Safety concerns are pushing up insurance premiums. <p>Technological</p> <ul style="list-style-type: none"> ▶ Shipper demand for quality service, just-in-time (JIT) delivery; scheduling innovations. ▶ There is some technological change, principally information technology (IT) systems for dispatch and monitoring of shipments. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ There are lifestyle changes and pressure to balance work and family.
<p>CHARACTERISTICS OF THE INDUSTRY</p>	<ul style="list-style-type: none"> ▶ The industry includes both for-hire trucking and private trucking; courier firms and freight forwarders were not included. ▶ Service sector-primary and manufacturing industry are main shippers. ▶ The estimated total sales/expenditure were \$13.2 billion in 1987. ▶ Compared with other modes of transport, ownership is widely dispersed; 100 of the largest for-hire firms had less than 50% of market; private trucking was even less concentrated. ▶ There are many very small establishments. ▶ The main subsectors are truckload (TL) and less-than-truckload (LTL); LTL tend to be bigger due to warehouse infrastructure; growth has been in TL sub-sector where barriers to entry are low. ▶ Market specialization requires special equipment (e.g. tank, flatbed). ▶ The sector is widely dispersed geographically, with specialization linked to regional industries; about 1/3 originates in Ontario; geographic distribution of employment approximates Canadian workforce. ▶ There is perceived competitive threat from major U.S. trucking firms. ▶ Interlining and other forms of alliances to extend market reach expanding with FTA (and NAFTA). ▶ There is derived demand for services which is linked to demand for commodities and thus to the business cycle; performance is very sensitive to construction and manufacturing activity. ▶ 70% of goods traded travel by truck; 60% of exports and 70% of imports. ▶ The margins are low; biggest firms make money on low margins and high volumes. ▶ Key success factors are: capacity utilization; backhaul; on-going contracts which depend on JIT; reliability of delivery; management information and scheduling; safety, preventive maintenance and energy management all contribute.

NOTE: Data and information presented above were current at the time of the study.

UNIONIZATION / PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ Unionization rate lower than in other modes of transport; it is relatively common in larger firms (over 80% in some provinces). ▶ The unions include: Canadian Brotherhood of Railway, Transport and General Workers (CBRT), International Brotherhood of Teamsters, United Food and Commercial Workers International Union (UFCW), Canadian Union of Public Employees (CUPE) and Canadian Automobile Workers (CAW). ▶ Associations of owner-operators are active.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ Total employment was estimated at 186,000 in 1989 (likely underestimated due to definition of sector). ▶ Direct employment is still the most common but growing proportion work on contract (owner-operators) especially in TL sector; increasing use of employee "leasing" through specialized agencies. ▶ Truck driver is the major occupation, accounting for 60% of for-hire employees and almost 80% of private trucking; other occupations are in maintenance, warehousing, dispatch and administration. ▶ There is specialization in terms of long haul, and types of trucks (bulk, flatbed, etc). ▶ There is considerable occupational attachment. ▶ The median age is 36.6 which is about the same as the total Canadian workforce but relatively few older workers. ▶ 23% have less than grade 9 education, 63% have no diploma, and 14% have completed high school. ▶ 97% male although there is wide acknowledgment that women can handle the job. ▶ Predominantly white, but there is growth of visible minorities in some sub-sectors. ▶ There is relatively high turnover among young drivers; entry to general freight followed by specialization; career progression is limited. ▶ There is considerable mobility between for-hire and private trucking. ▶ Lifestyle issues contribute to exit.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ There is federal jurisdiction for interprovincial/international for-hire and provincial jurisdiction for intraprovincial trucking and private carriers. ▶ Recruitment tends to be very informal; reliance on word-of-mouth is used to attract candidates; there is some use of "bounties" to attract experienced drivers, but poaching has become a concern. ▶ Drivers are rarely guaranteed hours; carriers lay drivers off when business declines temporarily. ▶ Compensation structures vary between hourly and per mile; owner-operators are all compensated on a mileage basis but must cover costs which is difficult due to hours of service regulations. There is a relatively wide pay difference between different carriers (linked to type of trucking). ▶ Rates are higher in unionized firms but tend to get fewer hours.

NOTE: Data and information presented above were current at the time of the study.

HR MANAGEMENT PRACTICES (continued)	<ul style="list-style-type: none"> ▶ Some carriers are paying more attention to lifestyle concerns in scheduling, including slip seat operations. ▶ There is very limited human resource planning (HRP) activity/capacity.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ Many learn through on-the-job training (OJT) in smaller trucks. ▶ There are numerous small commercial trucking schools but tuition is very high. ▶ The focus is on driving and passing license test, not on full range of skills. ▶ There are some colleges and union-sponsored programs, but few employers offer full training. ▶ Class A/1 licensing is required but it is not a major barrier. The license is not considered to reflect a full skill set; often air-brake endorsement training is offered in colleges and by employers, unions. ▶ There is a lack of business skills development for owner-operators. ▶ Most small firms have no internal training infrastructure where as larger firms have driver safety officers who do some training. ▶ In-house training tends to focus on orientation to firm-specific operations, including cargo handling. ▶ There are some job aids for trip planning available; on-board computers and communications hook-ups may improve these aids. ▶ Industry-education links are very limited. ▶ Ongoing training activities are very limited.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ The range of tasks performed by drivers is expanding to include more paperwork, customer relations, and time pressure. ▶ Drivers work quite independently and represent the firm to shippers, therefore communication skills and sensitivity to customer requirements are important. ▶ Just-in-time delivery (JIT) requires trip planning. ▶ Paperwork is part of the driver's job, particularly for cross-border work, therefore math and literacy skills are needed. ▶ Energy consciousness is also needed for higher productivity. ▶ Technological change makes trucks more efficient, smoother, easier to operate but also more complex mechanically; IT/communications reduces trucker independence. ▶ The complexity of the driver occupation is not covered in training. There is a shortage of drivers with a full range of skills, including safety and commercial skills. ▶ There is a need for upgrading of existing drivers. ▶ There is a need to develop business skills of owner-operators because there are high rates of bankruptcy. ▶ Safety-related skills are very important such as cargo handling and load balancing skills.

NOTE: Data and information presented above were current at the time of the study.

KEY HR ISSUES (continued)	<p>Recruitment</p> <ul style="list-style-type: none"> ▶ Need to improve recruitment practices in trucking firms to select for high skills/ high performance. ▶ A poor image of the industry means trucking is often a job people fall into rather than choose; however, those who stay tend to enjoy it. ▶ The cowboy image conflicts with the need for reliability in service. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ The training infrastructure for entry level is very weak, inconsistent; potential entrants are often at the mercy of inadequate schools which focus only on licensing. ▶ Basic training is a very high cost due to the cost of trucks. ▶ The continuous learning infrastructure/supports are also weak. ▶ It is difficult work from the occupational safety and health perspective; back strain is a major concern for older workers; ergonomic designs are available but adoption limited. ▶ U.S. regulations on drug testing cast shadow into Canada. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ Long hours and time away from home can be a problem but a large portion of drivers work closer to their base. ▶ Employment equity is a challenge but did not rank as a high priority. <p>Other</p> <ul style="list-style-type: none"> ▶ There is concern regarding quality and compatibility of Statistics Canada's human resource data. ▶ There is concern regarding eligibility for government human resource development supports due to brevity of training programs at the establishment level.
RECOMMENDED PRIORITIES FOR ACTION	<p>Establishment Level</p> <ul style="list-style-type: none"> ▶ Improve recruitment of new drivers through more rigorous, reliable selection. ▶ Establish direct links with local education through participation at job fairs and co-op placements. ▶ Support driver involvement in "safe driving week" activities. ▶ Reward drivers for good/safe habits. ▶ Improve retention through more focus on lifestyle concerns (managing hours). <p>Sectoral Level</p> <ul style="list-style-type: none"> ▶ Provide information to high schools on opportunities. ▶ Outreach to workers in related occupations. ▶ Develop a multi-tiered approach to driver training: basic training, on-the-job training and skills upgrading. ▶ Conduct a detailed skills analysis and curriculum development. ▶ Establish standardization and accreditation of training.
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MEMBERS OF THE STEERING COMMITTEE	<p>Employers</p> <ul style="list-style-type: none"> Kleysen Transport Limited Rempel Trail Transportation Ltd. Stedmans Trimac Transportation System MacKinnon Transport Ltd. Bulk Systems Northern Telecom Canada Limited <p>Unions/Professional Associations</p> <ul style="list-style-type: none"> Canadian Conference of Teamsters Canadian Brotherhood of Railway, Transport and General Workers <p>Industry Associations and Councils</p> <ul style="list-style-type: none"> Manitoba Trucking Association Alberta Trucking Association Motor Vehicle Manufacturers' Association Ontario Trucking Association Atlantic Provinces Trucking Association Association du camionnage du Québec Canadian Industrial Transportation League Saskatchewan Trucking Association Canada Trucking Association Safety Council of the Canadian Trucking Association COM CAR Owner-Operator's Association B.C. Trucking Association Transit Insurance Managers Ltd. Private Motor Truck Council of Canada Canadian Council of Motor Transport Administrators Régie de l'assurance automobile du Québec <p>Educators</p> <ul style="list-style-type: none"> George Brown College Markel Institute of Professional Transport Training <p>Government</p> <ul style="list-style-type: none"> Nova Scotia Provincial Government Transport Canada Gouvernement du Québec Ontario Ministry of Skills Development Employment and Immigration Canada

NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1995 HUMAN RESOURCES STUDY OF THE VISUAL ARTS AND CRAFTS INDUSTRY

Note: A survey of the cultural sector labour force was released in 1996.

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 60 page detailed report, entitled in the “<i>Work in Progress: Human Resource Issues in the Visual Arts and Crafts</i>”, was published in 1995. ▶ The research was undertaken by Price Waterhouse.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Identify common human resources issues. ▶ Develop a strategy aimed at solving these problems. ▶ Need to establish a direction for the strategy to develop human resources in the visual arts and crafts. ▶ Promote an environment that encourages the planning and development of human resources, and optimizes investments in developing Canadian artists and craftspeople now and in the future. ▶ A strong need to make Canadians aware of how important culture and crafts are to the Canadian economy, as well as how vital the cultural and social contributions are that they make.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ The study includes an exhaustive evaluation of human resources issues in the visual arts and crafts sector. ▶ The team analyzed secondary sources, reports, documents and data. ▶ Thirty interviews took place with key representatives to discuss challenges and trends in the sector. ▶ There were case studies on the careers of 27 artists and craftspeople. ▶ There were also case studies on six artist-run centers, co-ops and associations. ▶ Case studies were undertaken on 12 educational institutions and professional development organizations, which included focus groups with visual arts and crafts students, as well as deans, principals and teachers. ▶ Thirteen interviews with curators, agents, dealers and directors to discuss their roles in developing the careers of artists and craftspeople were conducted. ▶ There were six meetings with the Working Group.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ The economic recession is severely limiting the amount of income individuals have to spend on works of art. ▶ Attendance at museums and galleries has declined, and a number of these institutions are closing. ▶ Interest in purchasing original works is increasing steadily. ▶ Government spending on culture is decreasing. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ There are currently very few government policies that apply specifically to the visual arts and crafts.

NOTE: Data and information presented above were current at the time of the study.

CHANGE DRIVERS (continued)	<ul style="list-style-type: none"> ▶ There are, however, a fair number of more general government policies that adversely affect the visual arts and crafts. Here are a few examples: policies relating to self-employment or small-scale projects in which they do not enjoy the typical benefits of paid vacations, sick leave, or employer sponsored pension funds, disability insurance, medical or dental benefits; the elimination of income averaging for tax purposes which means that those with fluctuating incomes pay more income tax; and the impact of the GST on corporate purchases. There are no tax incentives to encourage the general public to purchase Canadian art and crafts. ▶ There are differences across the various levels of government, creating a need for consistent, progressive and relevant government policies. ▶ The truth is that insufficient statistics have been collected on the visual arts and crafts to establish judicious government policies. ▶ Grants for institutions and organizations are declining. ▶ There are important health and safety issues. Craftspeople handle all kinds of materials that could be dangerous. More specific regulations are needed. <p>Technological</p> <ul style="list-style-type: none"> ▶ New technologies do not necessarily increase competitiveness in the visual arts and crafts because of the importance placed on objects being "hand-made". Advances in production technologies have been evolutionary rather than revolutionary. The objective, above all, is to improve the quality of products and not their quantity. ▶ The transmission of sound and images, as well as computer-assisted design (CAD), are areas in which new technologies are having the most pronounced impact. ▶ Other possibilities related to technology include advertising through electronic catalogues, disseminating information on dangerous materials, and assessing educational and professional development. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ Aging of the population. ▶ Increasing presence of women in the workforce of this sector.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ The sector includes people involved in the plastic arts and crafts, particularly in painting, drawing, sculpture, carving, metalsmithing, printmaking, photography, tapestry, multimedia art, installation art, video and performance art, etc. ▶ In the visual arts and crafts, there are no big corporations that hire large numbers of artists and craftspeople to produce art and crafts. Usually artists and craftspeople are self-employed. ▶ The Canadian market for visual art is valued at about \$250 million.
UNIONIZATION/ PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ Self-employed workers are not unionized, but do belong to professional associations.

NOTE: Data and information presented above were current at the time of the study.

EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ According to the 1991 Census, some 26,000 Canadians reported they worked primarily as visual artists or craftspeople. ▶ The composition of the workforce differs from that of other fields, especially with respect to worker age. The reasons are: people generally dedicate more time to their art as they get older; it takes time to establish oneself and make a reputation; the number of early retirements; and, downsizing. ▶ Visual artists are highly educated. ▶ The visual arts remain essentially traditional and depend largely on the talent of the artists and craftspeople, and on "hand-made" pieces. ▶ The visual arts workforce grew more rapidly than the general labour force: it increased by 16% between 1980 and 1985 (compared with 5% for all occupations) and by 20% between 1986 and 1991 (compared with 6% for all occupations). ▶ On average, artists and craftspeople earn less than members of other cultural sectors in which their incomes generally vary between \$10,000 and \$12,000 for those who are self-employed; and between \$14,000 and \$16,000 for salaried employees. Incomes are generally very unstable and uncertain. ▶ Self-employed workers cannot contribute to unemployment insurance. ▶ Many artists and craftspeople have part-time jobs to make ends meet, which slows down their professional development substantially. ▶ Grants and awards play a crucial role in the success of many artists.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ As most artists and craftspeople are self-employed or work in small groups, there is no such thing as human resource management.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ Between 1985 and 1990 the number of fine arts graduates from both universities and colleges increased, by 37% and 43% respectively. ▶ Educational institutions face a decline in government funding. As result, there are fewer programs. ▶ Without grants, most novices could not have participated in training programs. ▶ Since artists and craftspeople are primarily self-employed, they are solely responsible for their own training and for financing it. ▶ Research, reading, travel, experimentation, and the establishment of assistance networks are the primary means of learning. ▶ Professional development activities are offered through three types of infrastructures: artist-run centers offer workshops and seminars tailored to all interests, from introductory courses to master classes; more long-term programs, such as residencies, artist colonies and workshops offered by specialized institutions; and associations are becoming increasingly involved in training. ▶ Distance learning is becoming essential to increase access by artists to professional development and to decrease its cost. However, few organizations are able to develop distance learning programs. ▶ The extremely limited number of apprenticeship programs forces many craftspeople to go abroad.

NOTE: Data and information presented above were current at the time of the study.

KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ Skills in business management and marketing are definitely required for a successful career in the visual arts and crafts. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ The majority of artists and artisans are self-employed or work in small groups. Hiring must be examined in this context. For example, as they find earning a living from art difficult, many novice artists and craftspeople must find a job that can give them a stable source of income while they develop their portfolios and their careers. ▶ Those who want to hire artists must go through so much administrative and financial trouble that they generally give up this approach, which impacts negatively on their work. ▶ The number of women in the sector workforce has increased considerably. For example, in 1971 they only represented a quarter of the painters and sculptors, whereas in 1986 they represented half. ▶ Overall, women represent about 56% of visual artists and craftspeople. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ Not mentioned. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ Like all other self-employed workers, artists are solely responsible for their economic well-being and for their career development. <p>Other</p> <ul style="list-style-type: none"> ▶ Not mentioned.
RECOMMENDED PRIORITIES FOR ACTION	<ul style="list-style-type: none"> ▶ Create an advertising, promotion and general education campaign to stimulate awareness of, and develop markets for, the visual arts and crafts. ▶ Primary and secondary schools, as well as school boards, must be committed to teaching the arts. ▶ The sector must become more involved in art education at the elementary and secondary school levels through programs such as artists-in-the-schools. ▶ Undertake a strategic examination of visual arts and crafts programs at all post-secondary levels. ▶ Include business practices and marketing in visual arts and crafts programs. ▶ The associations and arts schools need to work together to create a climate that is more accepting of the commercial aspect of the visual arts and crafts occupation. ▶ Educational institutions should work with industry to find work placements for students. ▶ Identify more opportunities for new artists and craftspeople to mix with experienced artists. ▶ Municipal governments should provide studio space for artists and craftspeople. ▶ Courses in professional skills must be available to assist existing artists and craftspeople in the development of their practices. ▶ Evaluate possibilities for training through correspondence or through electronic distance learning formats.

NOTE: Data and information presented above were current at the time of the study.

<p>RECOMMENDED PRIORITIES FOR ACTION (continued)</p>	<ul style="list-style-type: none"> ▶ Improve government funding designed for training self-employed artists and craftspeople. ▶ The sub-sectoral committee should investigate the potential for developing databases on Internet that address the communication needs in the sector. ▶ The sector must foster links with the industry to encourage artists-in-residence opportunities. ▶ Develop consistent, progressive and relevant policies and mechanisms that will encourage business and market development in the visual arts and crafts. ▶ The sector must make its concerns about social security programs known. ▶ Collect reliable and consistent data on the visual arts and crafts to give direction to government policies. ▶ Maintain and enhance existing grants and awards by working with government. ▶ The sub-sectoral committee should work with government to ensure a criteria-based system for all consumer chemicals is implemented.
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NOTE: Data and information presented above were current at the time of the study.

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NOTE: Data and information presented above were current at the time of the study.

MEMBERS OF THE STEERING COMMITTEE	<p>Employers Banff Centre for the Arts T.J. Cheney Research</p> <p>Industry Associations and Councils Professional Art Dealers Association of Canada (PADAC)</p> <p>Unions/Professional Associations Canadian Artists Representation Canadian Crafts Council Conseil des Métiers d'art du Québec Society of Graphic Designers of Canada</p> <p>Government Department of Canadian Heritage Human Resources Development Canada National Sectoral Council for Culture Nova Scotia Department of Education</p>
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NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1995 HUMAN RESOURCES STUDY OF **THE WESTERN CANADIAN GRAIN STORAGE AND HANDLING INDUSTRY**

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ This 98 page detailed report, entitled "<i>Human Resources Study of the Western Canadian Grain Storage and Handling Industry</i>", was published in the spring of 1995. ▶ The research handling was undertaken by Deloitte & Touche Management Consultants.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ The need for improvement in union-management relations. ▶ Enormous changes in the industry's markets, methods of transportation and technologies.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ Literature review and public data analysis. ▶ Interviews and focus groups were completed with industry experts, key stakeholders, employees, management, union representatives, and representatives of education and government. ▶ A number of focus groups were conducted, with employees, management and union representatives of on-site terminal and country operations. ▶ Employee (workforce) and employer (organizational) surveys were completed and used to help create industry and regional profiles, in addition to the interviews.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ Economic recession. ▶ Three successive work stoppages in 1991. ▶ Opening up of new export markets in the coastal countries of Asia, South America and the United States to the detriment of traditional (European) markets, the latter of which receive less than 5% of Canadian exports, down from 44%. ▶ Thunder Bay is in a vulnerable position; it is no longer the main port for exporting Canadian grains due to the shift from exporting to Europe. ▶ The impact of the FTA, NAFTA and GATT on Canadian exports. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ The industry is gradually becoming less regulated and protected. ▶ The Western Grain Transportation Act could be amended because it no longer conforms to GATT subsidy standards. ▶ The grain classification system currently used in Canada is bound to change due to changing consumer needs

NOTE: Data and information presented above were current at the time of the study.

WESTERN GRAIN STORAGE AND HANDLING INDUSTRY - 1995

CHANGE DRIVERS (continued)	<p>Technological</p> <ul style="list-style-type: none"> ▶ The need for computer technologies is becoming more and more apparent. ▶ New methods for transporting and handling grain are being developed. ▶ Specialty crops are gaining importance because client preferences are becoming increasingly specific. ▶ Technological progress is not expected to reduce costs in the near future. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ The industry has suffered from labour unrest and poor communication. ▶ The work atmosphere is deteriorating.
CHARACTERISTICS OF THE INDUSTRY	<ul style="list-style-type: none"> ▶ Sector mainly composed of terminal grain elevators and primary elevators (e.g. those in close proximity to farming operations). ▶ Other organizations that are an integral part of the industry: Canadian Wheat Board (CWB); Canadian Grain Commission (CGC); Grain brokers; Government organizations (Canadian International Grains Institute - CIGI; Canadian International Development Agency - CIDA); Western Grain Elevator Association; Net Income Stabilization Administration (NISA); and, Railway companies. ▶ Key factors suggested for the future success of the industry touch mainly on preserving Canada's reputation as a reliable provider of quality products; being more and more efficient and competitive; offering a high-quality service; and, investing in training and development.
UNIONIZATION/ PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ Principal unions in the Canadian grain industry, representing about half of the employed labour force: Transportation Communications Union (TCU) - Grains Division - 690 members (Thunder Bay); Grain Services Union (GSU) - 2,900 members (Prairies); and, Grain Workers Union (GWU) - 750 members (B.C.). ▶ Poor labour relations climate.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ Employment fell by 25% between 1981 and 1994 (from 11,765 to 8,736). ▶ Workers in skilled and semi-skilled trades are in greater demand. ▶ Skills required, now and in the future: informatics; communications; marketing; and, health and safety. ▶ Full-time employees account for 92% of the industry's workforce, and are mainly located in the Prairie provinces. ▶ 85% of the workers are male. ▶ 84.2% have secondary school and/or post-secondary education. ▶ 78% are under 46 years old. ▶ 40% have over 15 years' experience in the industry.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ No strategic plan for human resource management, beyond the fiscal year. ▶ Lack of consistency in methods of human resource management methods. ▶ Need to find a more efficient way to plan and allocate overtime, especially in terminal grain elevators. ▶ Need to use more flexible work arrangements.

NOTE: Data and information presented above were current at the time of the study.

WESTERN GRAIN STORAGE AND HANDLING INDUSTRY - 1995

TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ In 1993, the industry invested \$553/employee for the sample of all full-time employees reviewed, compared to \$697/employee in Canadian industry as a whole. ▶ Even taking into account the differences in levels of operations and in the perception of value-added at different points, large variations in training expenditures exist at the regional level. ▶ It is necessary to establish durable links between the industry and the education system to guarantee continued delivery of programs for basic training and the upgrading of essential skills.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ Future occupational categories will include computer programmers, multi-skilled technicians, and logistics specialists. Emerging skill requirements will continue to evolve and the focus will be on marketing, information systems, automated processing, and business planning. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ Methods have evolved hand-in-hand with competitive pressures and organizational needs. ▶ The risks of a shortage of labour in highly technical trades in the short and medium terms will oblige organizations to further upgrade their existing employees and to rely on external recruitment. ▶ Given the increasing competitive pressures at primary elevators, staffing requirements are bound to increase. ▶ The trend will continue to recruit and upgrade workers with knowledge, rather than those with physical abilities or manual skills. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ Shortage of managers competent in human resource training. ▶ Training priorities should focus on informatics; mentoring; marketing; communications; teamwork; and, empowerment of employees. ▶ Neglecting to spend on training will contribute to perpetuating the negative climate that exists in the industry. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ The more intrinsically rewarding and higher value-added occupations found in Country Operations and head office environments revealed higher levels of job satisfaction. ▶ Significant job satisfaction/employee morale differences between the Prairies and the Terminals are generally due to: the current state of labour relations and collective agreements; the labour intensive nature of work in the terminals; and, more customer interactive jobs in Country Operations. <p>Other</p> <ul style="list-style-type: none"> ▶ The industry is undergoing significant change on many fronts (technology, standards, information, competition, rationalization, regulation). ▶ Must ensure adequate Human Resources Planning.

NOTE: Data and information presented above were current at the time of the study.

<p>RECOMMENDED PRIORITIES FOR ACTION</p>	<ul style="list-style-type: none"> ▶ There were 36 recommendations made, grouped under the following categories: Human Resources Strategy; Communications; Employee Empowerment; Labour Relations; Employee Morale/Job Satisfaction; Recruitment; Human Resource Planning; Workforce Adjustment; Performance Management; and, Training and Development. ▶ Some examples include: <ul style="list-style-type: none"> - apply pressure on provincial authorities to ensure that the regulations that govern apprenticeship programs do not hinder opportunities to acquire multiple skills; - direct the development of courses offered in educational institutions; - apply pressure to preserve the viability of the St. Lawrence Seaway; - take concrete steps to increase union-management collaboration; - investigate both domestic and international human resource (HR) best practices and benchmarks, and where practical, build them into the design of applicable HR strategies; - further employee participation and involvement (empowerment) in operational problem solving and decision making; and - invest more heavily in technology and skill development, training and retraining.
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NOTE: Data and information presented above were current at the time of the study.

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NOTE: Data and information presented above were current at the time of the study.

WESTERN GRAIN STORAGE AND HANDLING INDUSTRY - 1995

MEMBERS OF THE STEERING COMMITTEE	Employers Alberta Wheat Pool Cargill Ltd. Grain Transportation Agency Manitoba Pool Elevators Pioneer Grain Company Limited Saskatchewan Wheat Pool United Grain Growers Unions/Professional Associations Grain Services Union Grain Workers Union Transportation Communications International Union Industry Associations and Councils Western Grain Elevator Association Educators Canadian International Grains Institute Government Canadian Grain Commission Canadian Wheat Board Human Resources Development Canada
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NOTE: Data and information presented above were current at the time of the study.

SUMMARY OF THE 1992 HUMAN RESOURCES STUDY OF THE BRITISH COLUMBIA WOOD PRODUCTS INDUSTRY

BACKGROUND INFORMATION	<ul style="list-style-type: none"> ▶ The 94 page detailed report, entitled "<i>Human Resources in the British Columbia Wood Products Industry</i>", was published 1992. ▶ The research was undertaken by Ernst & Young.
IMPETUS FOR STUDY	<ul style="list-style-type: none"> ▶ Over the last 15 years, the wood products industry in B.C. underwent significant structural changes which resulted in downsizing the workforce. In addition, the industry is experiencing uncertainty and threats of further reductions in annual allowable cuts of timber.
APPROACH AND METHODOLOGY	<ul style="list-style-type: none"> ▶ A series of individual interviews and small group workshops were conducted with members of the steering committee. ▶ Interviews were completed with 40 executives from: corporations, organizations representing wood product companies, the IWA- CANADA, educational establishments, industry associations, and government. ▶ Nine workshops and nine focus groups were conducted across the province which involved: local industry and union managers; association representatives; educators; mill operators; trades people; woods workers; and union plant committee representatives. Five case studies were completed to develop a profile of the approaches some employers and unions have taken to help employees cope with change. ▶ Literature review included data from Statistics Canada, industry sources, associations, and technical reports of the British Columbia Forest Resources Commission, and the British Columbia Task Force on Employment and Training.
CHANGE DRIVERS	<p>Economic/Market</p> <ul style="list-style-type: none"> ▶ This is a mature industry struggling to adjust to the decline in the volume and quality of raw material and a decline in its global competitiveness. ▶ A globalization of wood products markets was occurring along with an emergence of new suppliers. ▶ It is likely that B.C. will become a marginal supplier during the recession period in U.S.; or alternatively will depend on sales on spot markets or a reduction of capacity.

NOTE: Data and information presented above were current at the time of the study.

<p>CHANGE DRIVERS (continued)</p>	<ul style="list-style-type: none"> ▶ A demand for higher quality in some international markets, particularly the Japanese market; resulting in a change in the product mix to more secondary/tertiary production. ▶ The industry needs to reduce uncertainty in order to create a better investment climate. <p>Regulatory</p> <ul style="list-style-type: none"> ▶ Major trade disputes are ongoing with the U.S. concerning softwood lumber. ▶ A decline in annual allowable cuts and a policy debate over sustainable development of the resource affect supply. ▶ Non-tariff barriers (e.g. nematodes in wood) close markets. ▶ Increased environmental regulations on areas open to logging result in longer permitting processes and diminishing access. ▶ A reduced investment climate results from high uncertainty. <p>Technological</p> <ul style="list-style-type: none"> ▶ Information technologies are being increasingly used in planning the use of logs and in plant management. ▶ Materials technologies impact on the uses of wood. ▶ Biotechnologies in silviculture (relatively minor) affect supply. ▶ Soft technologies in mills are changing the industry. <p>Social/Demographic</p> <ul style="list-style-type: none"> ▶ Strong social pressures for "green" policies have a direct impact on the industry. ▶ Conflicts over land use detract from the image of the industry.
<p>CHARACTERISTICS OF THE INDUSTRY</p>	<ul style="list-style-type: none"> ▶ The sector is defined to include: silviculture, logging, sawmills, planing mills, veneer, plywood, panel, shakes, shingles producers, and secondary manufacturing. ▶ This sector accounted for 28% of B.C.'s GDP in 1990. ▶ There are two major sub-groups within the industry: coast, and the B.C. interior. ▶ It is interdependent with the pulp and paper sector. ▶ Forintek is an industry-specific source of R&D. ▶ Recent financial performance of the sector has been weak and the industry has been downsizing. ▶ Traditionally it is a cyclical industry and major demand factors include residential and commercial construction. ▶ The value of international markets swings with the exchange rate. ▶ The traditional focus was on achieving high productivity through a narrow range of standardized commodity grade products; key success factors have moved from cost to quality by way of producing more value-added, higher quality products, and meeting client specifications.

NOTE: Data and information presented above were current at the time of the study.

UNIONIZATION / PROFESSIONAL ASSOCIATIONS	<ul style="list-style-type: none"> ▶ Unionization is high in this industry. ▶ Workers are represented by the IWA - CANADA. ▶ The Western Wood Products Forum is a joint venture of some of the principal companies active in the industry and the IWA-CANADA.
EMPLOYMENT PATTERNS	<ul style="list-style-type: none"> ▶ Total employment was estimated at 61,000 in 1992 and expected to decline by 11,000 over the next 10 years indirectly causing 22,000 jobs to be lost throughout the B.C. economy. ▶ An average age of 43 in the coast industry and 40 in the interior. ▶ The majority of those currently employed in the workforce were hired with an emphasis on physical attributes, not on academic qualifications. ▶ Employment equity is an issue; women are under-represented in trades due to lower levels of seniority, aboriginal people are under-represented in decision-making work, and disabled people are not adequately integrated. ▶ Turnover is relatively low. ▶ Relatively rigid and slow job progression rules exist.
HR MANAGEMENT PRACTICES	<ul style="list-style-type: none"> ▶ Recruitment practices are informal and rely on word of mouth. ▶ Physical fitness was a higher priority than problem solving or communications skills in the past, and the industry often recruited high school dropouts and depended on a transient workforce. ▶ The compensation structure is defined in collective agreements; recent negotiations focus on benefits and job security rather than pay rates. ▶ Personnel practices traditionally focused on "hire and fire", not on development ▶ Downsizing was done mostly by seniority, resulting in loss of younger workforce and leaving older workers to be retrained. ▶ A broadening of employees' skills is taking place such as: the development of supervisors as coaches; the development of more effective communication; and the encouragement of empowerment in the workforce.
TRAINING AND DEVELOPMENT PATTERNS	<ul style="list-style-type: none"> ▶ Most operational workforce employees learn on-the-job; apprenticeship programs are available in trades. ▶ Some college programs exist for technicians and operators but there is a concern that these are under-subscribed and risk being cut. ▶ The adequacy of training planning/infrastructure is questioned, specifically regarding retraining initiatives. ▶ There is a lack of a hands-on "model mill" for students, as exists in New Brunswick. ▶ Industry-specific certification includes Master Lumberman. ▶ Companies and unions are working with local educational facilities to ensure the development and availability of relevant vocational training programs and curriculums.

NOTE: Data and information presented above were current at the time of the study.

WESTERN WOOD PRODUCTS INDUSTRY - 1992

TRAINING AND DEVELOPMENT PATTERNS (CONTINUED)	<ul style="list-style-type: none"> ▶ There is a perceived lack of integration of existing continuing education courses into career paths. ▶ There is a lack of an industry-wide recognized program of study.
KEY HR ISSUES	<p>Organizational Design</p> <ul style="list-style-type: none"> ▶ A need to continue development of a different working environment and different skills for employees. ▶ There is a need for more flexibility in job definition within the mills. ▶ A need to improve the climate of co-operation and team work in the mill, such as new work practices including team work, career ladders, compensation, job posting, and improved recruiting. ▶ Quality improvement is required to ensure success in the global market place which can be achieved partly by increasing the availability of employee training and by creating interdependence between and among operations. ▶ Multi-skilling is needed to create a knowledgeable workforce. ▶ The ratio of trades to other workers is increasing with more complex equipment; the industry is experiencing the emergence of new trades or joint trades ▶ There is an emerging need for stronger marketing skills and improved understanding of the full interdependence of operations. The more employees know and understand about operations the more they can contribute to the enhancement of product quality. Team work and problem-solving will also be improved recruitment. <p>Recruitment</p> <ul style="list-style-type: none"> ▶ Need to improve recruitment/promotional approaches to enable workers with less seniority access to training, but recognition that rigid rules for access to apprenticeship will be difficult to change. ▶ The image of the industry is a major concern; few young people aspire to enter it. ▶ Employees must be supported to raise their educational levels and to be more participative. Managers and supervisors must be retrained to act as coaches and advisors and work teams and cross-training must be established. ▶ A need to improve employment equity mentioned. <p>Training and Development</p> <ul style="list-style-type: none"> ▶ Literacy/numeracy upgrading requirement is very significant. ▶ There is a need for: technical retraining/upgrading in mills to accommodate automation; preventative maintenance skills among operators; and more sophisticated maintenance skills among trades. ▶ Need to strengthen environmental skills and develop a "stewardship" mentality. ▶ Need for soft skills development to understand the total process, communicate and work as team

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KEY HR ISSUES (continued)	<ul style="list-style-type: none"> ▶ Need for a more informed workforce, with understanding of customer needs. ▶ Need for supervisory development in coaching skills. ▶ Employees have traditionally been hired for their capacity to do a specific entry level job; training opportunities have been limited by seniority considerations and volume production imperatives ▶ Concerns about adequacy of continuous learning infrastructure/supports exist. <p>Reward/Retention</p> <ul style="list-style-type: none"> ▶ Need to address compensation systems to ensure they complement multi-skilling. ▶ Working conditions can be relatively poor; shifts; some outdoor work in remote locations. <p>Other</p> <ul style="list-style-type: none"> ▶ Other downsizing expected to continue (loss of 11,000 forecast). ▶ Human resource and labour training and adjustment programs are currently administered by the federal government, however, it is debated that this may become a provincial jurisdiction.
RECOMMENDED PRIORITIES FOR ACTION	<p>Establishment Level</p> <ul style="list-style-type: none"> ▶ Develop stronger industry-education links. ▶ Encourage and support upgrading among employees. ▶ Restructure the work environment to develop multiskilled employees. ▶ Encourage the raising of overall educational levels. ▶ (Re) introduce partial/full financial support for relevant vocational education programs for employees. <p>Sectoral Level</p> <ul style="list-style-type: none"> ▶ Establishment of a modular program with widely recognized standards, linked to career paths, and with delivery of the program on a local basis.
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NOTE: Data and information presented above were current at the time of the study.

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 - 3. International Forest Products Limited, Western Whitewood Division, New Westminster, B.C.
 - 4. Canadian Forest Products Limited, Englewood Logging Division, Woss, B.C.
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NOTE: Data and information presented above were current at the time of the study.

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<p>MEMBERS OF THE STEERING COMMITTEE</p>	<p>Employers</p> <ul style="list-style-type: none"> Canadian Forest Products Limited Forest Industrial Relations Limited British Columbia Trade Development Corp. British Columbia Wood Specialties Group Fletcher Challenge Canada Limited MacMillan Bloedel Limited TIMFOR Contractors Limited Weldwood of Canada Limited <p>Industry Associations and Councils</p> <ul style="list-style-type: none"> Council of Forest Industries of British Columbia Council on Northern Interior Forest Employment Relations Interior Forest Labour Relations Association International Woodworkers Association Western Wood Products Forum <p>Government</p> <ul style="list-style-type: none"> Employment and Immigration Canada Forestry Canada Industry, Science and Technology Canada Ministry of Advanced Education, Training and Technology Ministry of Forests

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List of Items	Amount
1. School Building	100,000.00
2. School Furniture	50,000.00
3. School Supplies	25,000.00
4. School Transportation	75,000.00
5. School Maintenance	30,000.00
6. School Security	15,000.00
7. School Insurance	10,000.00
8. School Miscellaneous	5,000.00
9. School Total	310,000.00
10. School Grand Total	310,000.00

